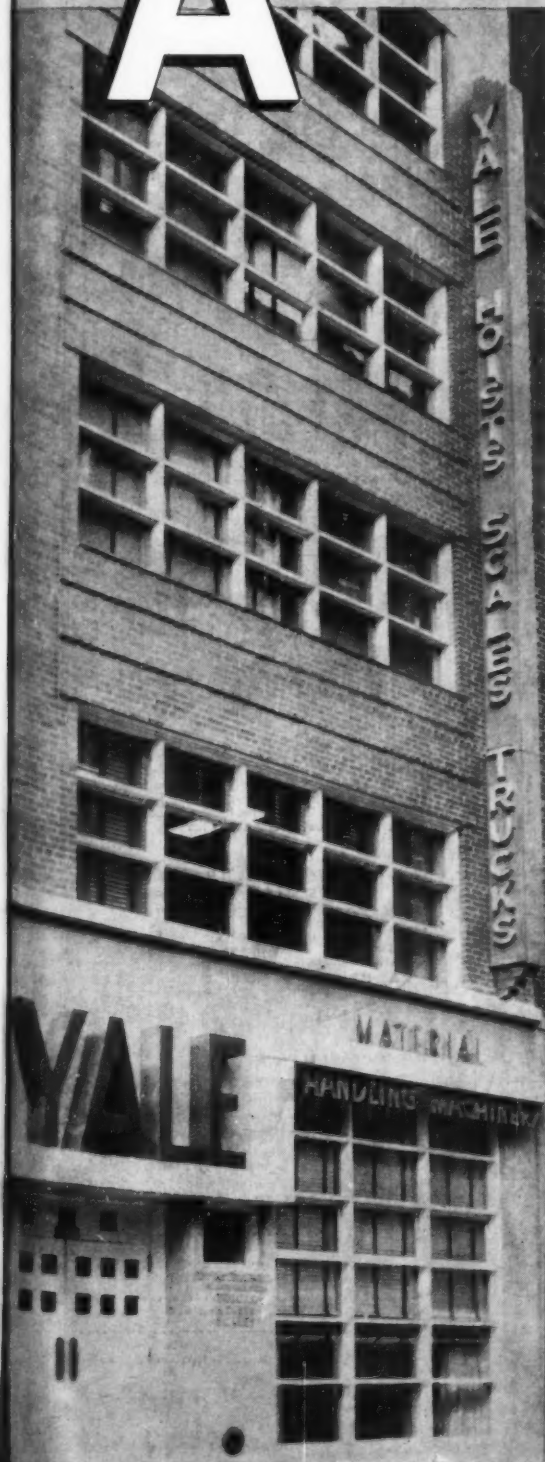


# DISTRIBUTION AGE

JANUARY 1948

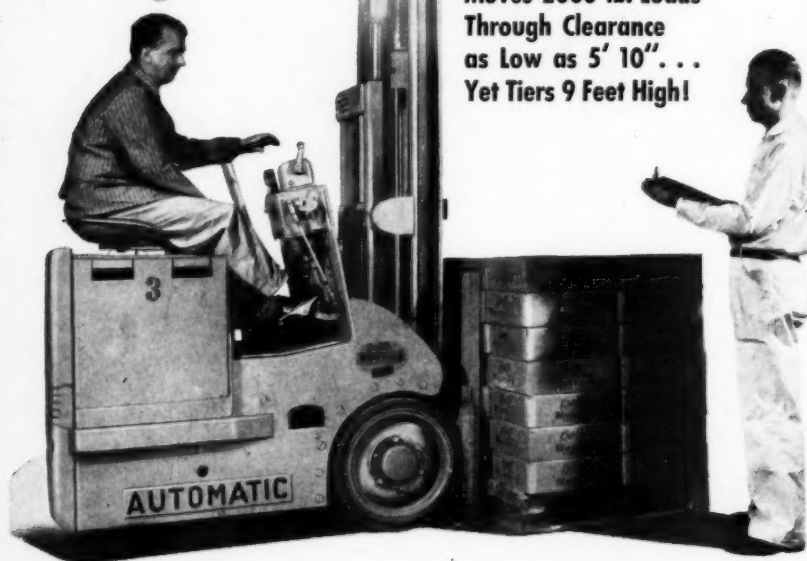


# How Kraft Foods Company Expedites Material Handling with New Fork Truck for Low Clearance, Crowded Loading and Tying!

Amazing New  
Automatic

## Skylift SHIPPER

Moves 2000 lb. Loads  
Through Clearance  
as Low as 5' 10" . . .  
Yet Tiers 9 Feet High!



Designed to exacting specifications of industry, amazing new Skylift SHIPPER accelerates material handling for KRAFT FOODS COMPANY in low clearance shipping operations! Pictures shown tell the story.

Now for the first time available to all industry, Skylift SHIPPER is the shortest fork truck ever designed—a truck that handles 2000 pound 48 inch loads on docks, storage areas and aisles too crowded or small for ordinary fork trucks.

Its low collapsed height of 68 inches, permits easy entry into trucks, trailers, refrigerator cars, cooler doors and other low-clearance portals.

Yet Skylift SHIPPER tiers 108

inches high for warehouse storage. With telescopic lift designed so forks and uprights are raised independently, forks raise 58 inches before uprights begin to extend. Thus you also can tier inside lowest trucks, and box-cars — impossible with trucks whose uprights raise simultaneously with forks.

It drives and operates like a car . . . lightens labor's load. Light weight, compact—and only 97 3/4 inches long, including 36 inch forks, Skylift SHIPPER is the only single truck you can operate as a complete handling system in dock shipping operations and storage tiering too! Let an ATCO specialist show you how much it will cut your shipping and handling costs. Mail coupon!



### DRIVE INTO TRUCK WITH LOAD

KRAFT FOODS COMPANY expedites loading of low-door trucks and trailers with Skylift SHIPPER. Low collapsed height permits easy entry of a ton of MIRACLE WHIP SALAD DRESSING.



### SPEEDS REFRIGERATOR CAR LOADING

Skylift SHIPPER loading a ton of KAY BRAND NATURAL CHEDDAR CHEESE into refrigerator car. Low doorways and narrow aisles are no handicap. And SHIPPER tiers ceiling high inside. Merchandise is moved more efficiently.



### 9 FOOT TIERING IN NARROWEST AISLES

KRAFT FOODS COMPANY gets extra free storage space by using Skylift SHIPPER for 9 foot high tiering. 2000 pound loads of food products are easily moved and neatly tiered.

## Skylift SHIPPER

A PRODUCT OF AUTOMATIC

Lightness  
LIFES LOADS

### AUTOMATIC TRANSPORTATION COMPANY

DIV. OF THE YALE & TOWNE MFG. CO.

115 West 87th Street, Dept. A-8, Chicago 20, Ill.  
Please mail me, without cost, complete facts about your new Skylift SHIPPER Electric Truck.

☐ Have an ATCO Specialist make a free survey of my material handling costs.

Company Name.....

By..... Position.....

Street Address.....

City..... Zone..... State.....



*You asked for it - HERE IT IS!*

# NEW-BAKER 1000 lb. ELECTRIC FORK TRUCK

only \$2791

INCLUDING BATTERY  
AND CHARGER



● Narrow aisles, limited floor-loading capacity, congested areas, small and low-capacity elevators no longer need deprive plants of the advantages of mechanized handling with electric fork trucks. Designed to meet these specific problems, this new truck finds application wherever loads may be limited to 1000 lbs. Its low price makes it possible to use fork trucks and pallets on many applications for which the cost of equipment, in the past, was not justified.

**Baker Type FQH Center-Control Fork Truck**  
**Capacity:** Standard rating 1000 lbs. for 30 inch load length.

**Weight:** Truck complete with Battery 2805 lbs. Weight with full load (3805 lbs.) permits use on floors having limited capacity, on low-capacity elevators, and for loading highway trucks.

**Dimensions:** Overall length, excluding forks, 53½ inches. Width 28 inches. Turning radius—outside—60 inches. Requires only 97½ inches with 30 inch load to make right angle turn. Tilting-telescoping fork lift of 108 inches with 83 inch overall nested height.

**Power Equipment:** Battery suitable for full 12-hour operation.

**Charging Equipment:** Single-circuit motor-generator charger with automatic charge control and shut-off.

**Price:** Complete with battery and charger \$2791, with battery only \$2441.

See this new truck perform at our booths 302-303 National Materials Handling Exposition.

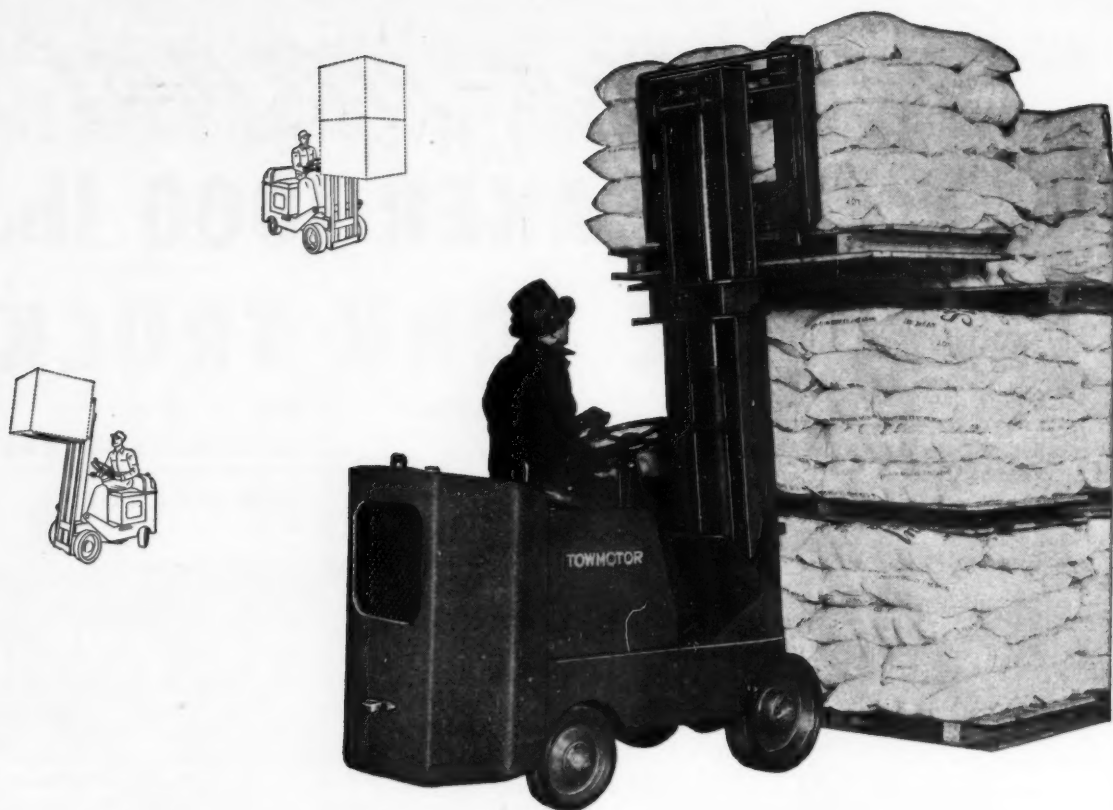
for complete information get in touch with your nearest Baker representative or write us direct.

**BAKER INDUSTRIAL TRUCK DIVISION**  
of The Baker-Raulang Company

2176 West 25th Street • Cleveland, Ohio

In Canada: Railway & Power Engineering Corporation, Limited



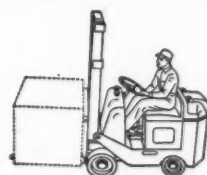


## How to Run Circles Around Competition

Stevedoring and warehousing operations are particularly dependent upon efficient handling. Reduce handling costs and you reduce operating costs . . . reduce operating costs and you increase profit margins . . . and increased profit margins always give you a head start on competition.

Let's go back to the beginning: You can reduce handling costs with a Towmotor Fork Lift Truck, designed for 24-hour, full-power service . . . lifting, transporting and stacking all types of materials and products.

There's a Towmotor Fork Lift Truck or Accessory that can bring your handling costs down. Send for a Pocket Catalog.



**SEND for special bulletins  
describing the TOWMOTOR**

**UNLOADER**

**UPENDER • SCOOP**

**CRANE ARM**

**EXTENSION FORKS**

**EXTENSION BACKREST**

**RAM • OVERHEAD GUARD**

**TOWMOTOR CORPORATION**

Division 19, 1226 East 152nd Street, Cleveland 10, Ohio

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MATERIALS HANDLING EXPOSITION  
CLEVELAND • JANUARY 12-16**



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*THE ONE MAN GANG*

**FORK LIFT TRUCKS and TRACTORS**

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## FRONT COVER

This month's cover has "news" rather than decorative value . . . It illustrates the first materials handling garage to be provided by a manufacturer . . . Shown in the action scenes are the service and repair shop and the spare parts depot which maintains a complete stock of spare parts for immediate installation or local delivery.

H. S. WEBSTER, JR.

Publisher.

D. J. WITHERSPOON

Editor

GEORGE POST

Assistant Manager

o o o

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JANUARY, 1948

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January, 1948

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STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.





## Delta's 3,000-Mile Parcel Chute Saves You Days at a Cost in Cents



### NOW...Rates on Northbound Fruit Cut to 12½ Cents a Ton-Mile

Rates on fresh fruit and vegetables shipped north from 15 southern points on Delta have been cut 40 per cent. Jacksonville-Chicago rate per 100 pounds, for example, is now cut to \$5.67 from \$9.45.

Fly fresh fruits and vegetables north to reach markets at peak prices. Ship mature products, only a few hours from field to store, to command top rates. Quick transit saves on refrigeration and spoilage. Cargo capacity up to 7,000 pounds per flight. For full details and rates, write Delta Air Freight Department.



General Offices: Atlanta, Georgia

Like a parcel chute from your plant to customer's door, Delta Air Freight makes southern deliveries fast, simple and economical. With overnight delivery to all Delta points, you save two to ten days per shipment. Yet this speed costs only a few cents more per 100 pounds than the fastest ground routing.

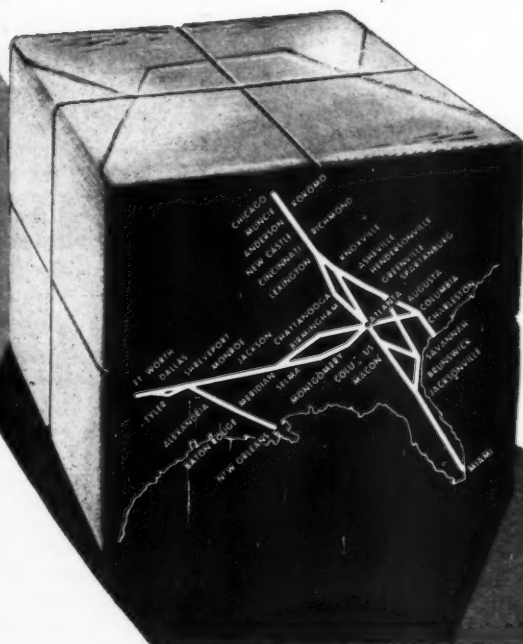
### Special Flying Freighters

Air Freight flies on all passenger schedules. That means no waiting for your goods to get underway. But in addition, Delta operates special "Flying Freighters" on round trips nightly between Chicago-Cincinnati-Atlanta and between Fort Worth-Dallas-Jackson-Birmingham-Atlanta. These freighters are timed for convenience of shippers, also to handle larger pieces up to 4½ x 4½ x 8 feet.

Delta's Air Freight rates, recently reduced 25 per cent, start at 25 pounds. Pick-up and delivery service available at all points.

### Rate Comparisons Available

Write today for a copy of Delta's point-to-point rates, with comparisons of surface rates between the same points. Address Air Freight Department, Delta Air Lines, Atlanta, Georgia. Or call any Delta ticket office.



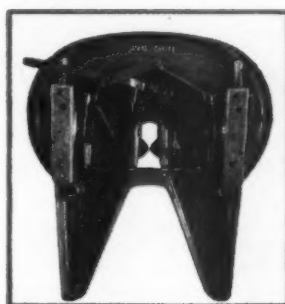
# NEW 5<sup>th</sup> WHEEL BY HIGHWAY



Pat. Pending



Pat. No. 2,429,532



- All steel yet 145 lbs. lighter.
- Weighs only 320 lbs. including 60-lb. mounting channel.
- Full 36" wide, more bearing surface.
- Torsional rubber mounted to tilt rearwardly. (Pat. pending)
- Rubber bearings resiliently resist and absorb shock.
- Eliminates tendency to "telegraph" noise to driver.
- Greater increased driver comfort.
- Tails always in down position when uncoupled.
- Improved "Duo-Lock" positive locking. (Patented)
- 3/4" bearing contact between each cam and kingpin
- 23 fewer parts—9 fewer moving parts.
- Greatest value at lowest cost.

Write for Complete Facts

## HIGHWAY TRAILER COMPANY

General Offices, Edgerton, Wisconsin Factories at: Edgerton and Stoughton, Wisconsin  
Commercial Truck Trailers • Earth Boring Machines • Winches and other Public Utility Equipment

# HIGHWAY AMERICA'S QUALITY TRAILERS

# NEW TRUCKS-



## NEW Styling

Here are wide, massive trucks representing DESIGN with a PURPOSE . . . trucks combining appearance with comfort, safety, performance, economy, and ease of handling.

## NEW Ease of Handling

Less turning space needed . . . right or left. Better weight distribution

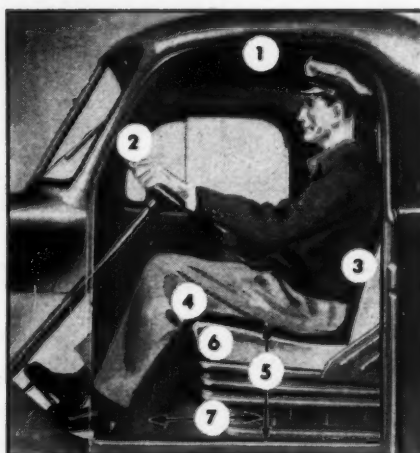
Remarkable new ease of handling and driving is yours in these new "Job-Rated" trucks. You can turn them in much smaller circles. You can park, back into alleys or up to loading platforms with much greater ease. You get all this with a new type of steering, in combination with shorter wheelbases that accommodate full-size bodies, and the roomier, longer cabs.

You get much better weight distribution, too, with this new design.

Front axles have been moved back, and engines forward. This places more of the engine and cab weight on the front axle. Loads are more evenly distributed.



## NEW COMFORT



- ① PLENTY OF HEADROOM
- ② STEERING WHEEL . . . right in the driver's lap.
- ③ NATURAL BACK SUPPORT . . . adjustable for maximum comfort.
- ④ PROPER LEG SUPPORT . . . under the knees where you need it.
- ⑤ CHAIR-HEIGHT SEATS . . . just like you have at home.
- ⑥ "AIR-O-RIDE" CUSHIONS . . . adjustable to weight of driver and road conditions.

⑦ 7-INCH SEAT ADJUSTMENT . . . with safe, convenient hand control.

ALL THIS...

*and more...with the*

# NEW DODGE



# REALLY NEW!

## **NEW** Tractors and other High Tonnage Models!

You'll find, in these *new* high tonnage models, many *exclusive* advancements: Strong, durable metals and alloys . . . precise machining, and a much wider range of equipment. Engines have cost-reducing sodium-cooled valves, and stellite-faced exhaust valves and seat inserts. Other outstanding features include sturdy 5-speed transmissions; rugged 12" and 13" clutches; smooth, safe brakes—the finest in the trucking industry.



## **NEW** "Pilot-House" Cabs with all 'round vision



Note the tremendously increased *vision* of these cabs. Windshields and windows are higher and wider. New rear quarter windows add still more to vision, and to safety.

With this increased glass area throughout, you get "Pilot-House" vision . . . in *all* directions. With welded all-steel construction, they're the *safest* cabs ever built.

## **NEW** All-Weather Ventilation



You drive in comfort whether it's 10° below or 100° above. Available is an ingenious combination of truck heater, defroster vents, vent windows, cowl ventilator, and a new fresh air intake from behind the front grille. It's the *finest* "All-Weather" heating and ventilating system ever installed in a truck cab.

# "Job-Rated" TRUCKS

**Now on Display**  
SEE YOUR  
**DODGE DEALER**

# *North American* *is your BEST choice!*

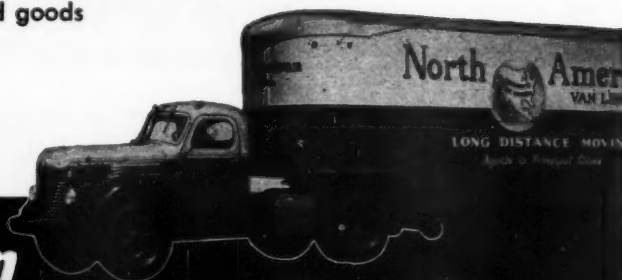


over **350 North American** agents  
give you this outstanding  
**LONG DISTANCE MOVING SERVICE**

Wherever you are, North, South, East or West, you can get an outstanding job of long-distance moving if you call on North American.

You can depend on our trained personnel and our modern, weather-proof, smooth-riding vans. We offer every facility for the safe transportation of household goods and office equipment.

Consult the North American agent in your territory now. You'll find his listing in the classified section of your phone book.



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**Van Lines, Inc.**

GENERAL OFFICES: FORT WAYNE, IND.

WAREHOUSES IN PRINCIPAL CITIES

# *Bonus Built*

## THE AMAZING RESULT OF AN ENGINEERING PRINCIPLE THAT ASSURES LONGER TRUCK LIFE ... And ONLY Ford Trucks Have It!

Coming for 1948—a brand new line of  
Ford Trucks ... new all through ...  
and **Bonus Built**, too!

Soon you'll see the great new line of Ford Trucks—great not only because they are *new all through*, but because they are the amazing result of a time-proved truck building principle.

This principle is Ford **Bonus Built** construction. Here's what it means to you:

Every one of the new Ford Trucks for '48 is built with *extra strength* in every vital part. This extra strength provides **WORK RESERVES** that pay off in two important ways:

First, these **Bonus Built** **WORK RESERVES** give Ford Trucks a greater range of use by permitting them to handle loads beyond the normal

ORDINARY TRUCK



FORD BONUS BUILT TRUCK



Not ONE Capacity ... but real RANGE when needed!

call of duty. Ford Trucks are not limited to doing one single, specific job!

Second, these same **WORK RESERVES** allow Ford Trucks to relax on the job ... to do their jobs with less strain and less wear. Thus, Ford Trucks last *longer* because they work *easier*!



The load is carried **EASIER** by the stronger man!

Remember, every Ford Truck for '48 is **Bonus Built** for longer life, wider use. Keep in touch with your Ford Dealer ... plan to see these new Ford **Bonus Built** Trucks for '48 as soon as announced. Don't settle for less—get the only truck that's **Bonus Built**! It's Ford!

**\*BONUS:** "Something given in addition to what is usual or strictly due."—Webster's Dictionary.

Listen to the Ford Theater over NBC stations Sunday afternoons, 5:00 to 6:00 p. m., E.S.T.


LIFE INSURANCE EXPERTS PROVE ... FORD TRUCKS LAST UP TO 19.6% LONGER!



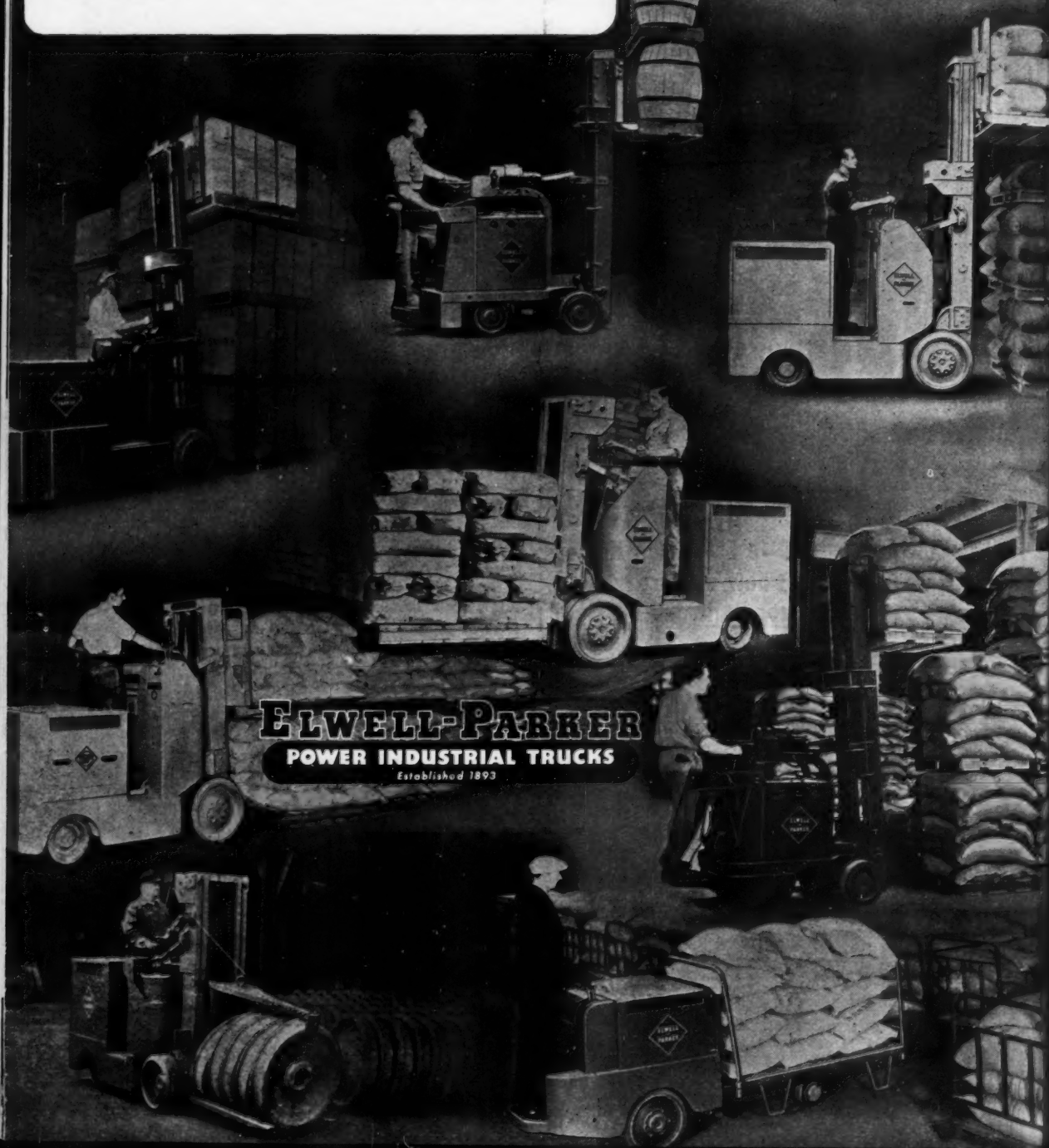
## ELWELL-PARKER Offers *Unequalled* Design and Application Engineering



Scientific Materials Handling described in 44 page booklet. Ask for copy of "Industrial Logistics".

due to longer, more varied experience serving over 300 branches of industry. The nearest  man will gladly discuss your truck requirements. The Elwell-Parker Electric Company, 4110 St. Clair Avenue, Cleveland 14, Ohio.

Consult with us at the  
Materials Handling Exposition, Booths 426-30



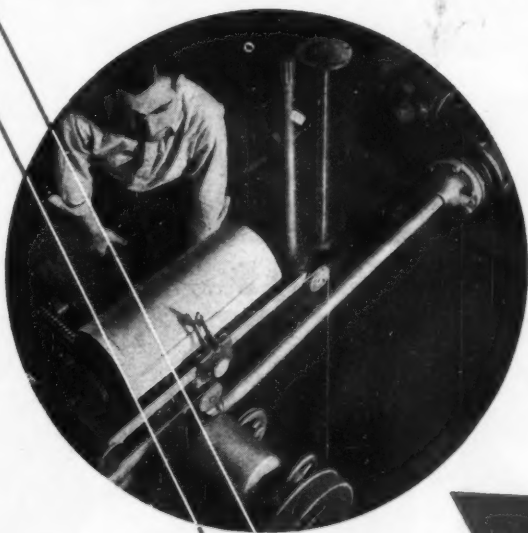
**ELWELL-PARKER**  
**POWER INDUSTRIAL TRUCKS**  
Established 1893

# you get more work out of Mack Trucks

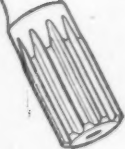


"Mack Mono-Shift performance is sensational . . . gives us quicker shifting . . . higher average speed." So writes Kessell Transfer & Storage Co., Des Moines, Ia. Like numerous other long-distance haulers, this company has found that when it comes to working harder and lasting longer at lowest cost, there's nothing on the road to beat a Mack.

## because..we put more work into Macks



There is no guesswork about the stamina of Mack parts. This testing machine determines the strength and elasticity of Mack axle shafts by imposing measured torque up to point of fracture. Sample shafts are tested to destruction, thus insuring that all Mack shafts fully measure up to Mack's exacting standards.



### Mack

trucks for every purpose

Mack Trucks, Inc., Empire State Building, New York 1, New York. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts. In Canada, Mack Trucks of Canada, Ltd.

### SINCE 1900, AMERICA'S HARDEST-WORKING TRUCK



**POWER** when you  
need it

**SPEED**  
when you want it

# EATON

## 2-SPEED

*Truck*

# AXLES

MORE THAN  $\frac{3}{4}$  OF A MILLION EATON 2-SPEED AXLES IN TRUCKS TODAY

EATON MANUFACTURING COMPANY

*Axle Division*

CLEVELAND, OHIO



# Heavy Duty

**THROUGH and THROUGH**



GMC heavy duty models are extra tough and rugged . . . heavy duty through and through. They are built that way because GMC is in the commercial vehicle business exclusively, because GMC designers and engineers know the kind of engines, axles, frames, transmissions, clutches and springs that will best perform on every heavy hauling operation. And they prove out that way . . . over-the-highway, off-the-road, or in city stop-and-go.

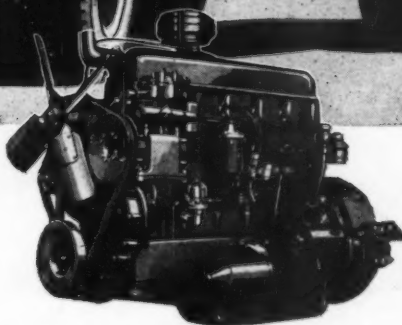
GMC heavy duty models are available in gross weight ratings of 19,000 to 90,000 pounds and offer wheel-base, engine and chassis options which permit manufacture of vehicles exactly suited to specific hauling needs. Let your GMC dealer show you how a heavy duty GMC can do a better heavy hauling job for you.

GMC TRUCK & COACH DIVISION • GENERAL MOTORS CORPORATION

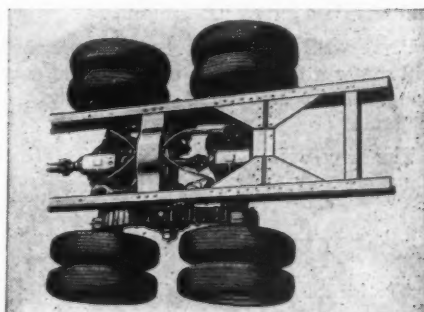
THE TRUCK OF VALUE



GASOLINE • DIESEL



GMC's four heavy duty gasoline engines, of proved, efficient valve-in-head design, offer such performance and dependability extras as Turbo-Top Pistons, Airplane-type Main Bearings, Tocco-hardened Crankshafts.



GMC's wide range of chassis options includes six basic rear axle designs. Illustrated is the rugged Worm Drive Tandem providing dual drive and maximum traction for extra heavy duty truck or tractor work.

*Long-Distance Moving*

**UNITED**  
**all**  
**the**  
**way**

**MOVING WITH CARE**  
*Everywhere*



*to serve you better, Mr. Traffic Manager*

One great nation-wide carrier—one single responsibility—for shipments in all 48 states.

Whenever personnel moving is your No. 1 problem, the *new* UNITED VAN LINES *can* and *will* do a better job for you.

UNITED'S thoroughly trained organization will see to it that important household possessions or office equipment arrive safely . . . on schedule.

The *new* UNITED is co-operatively owned

and operated by the *firms* that do the moving, thus assuring dependable, fast, worry-free long-distance moving service.

UNITED'S rates are standard with over 2300 other carriers. You *pay* for the best—you may as well *get* the best.

The next time you have a personnel move to make . . . make it UNITED . . . all the way! Check the Classified Telephone Directory for your nearest UNITED agent.

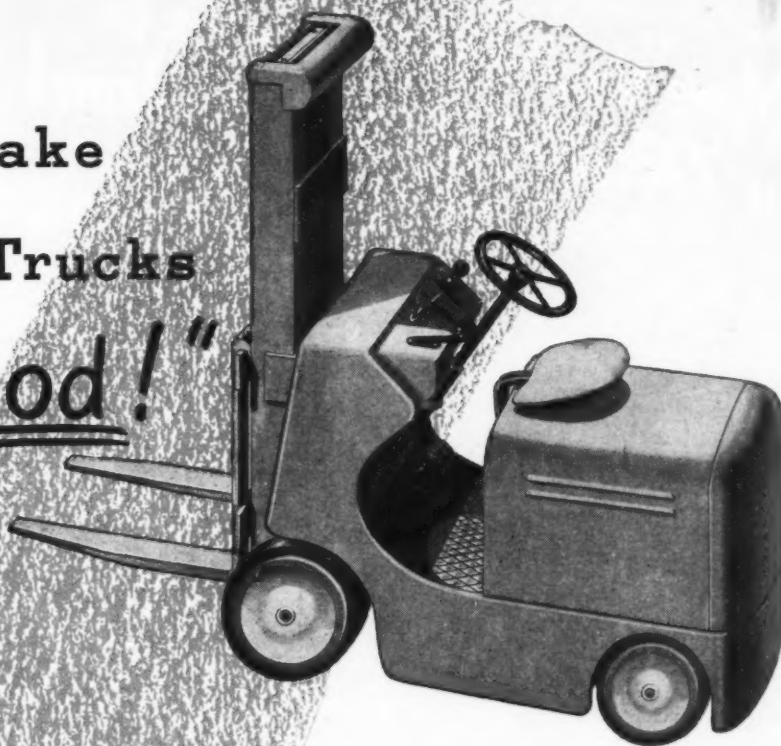
***United* VAN LINES, INC.**

Main Offices: St. Louis 12, Mo. • Agents in Principal Cities of the United States



*We've been told:*

# "You make Electric Trucks Too good!"



Some people say, when they first see the rugged chassis and construction details of electric industrial trucks: "But you make them *too* strong! Why not build them lighter and cut the price?"

Significantly, that suggestion rarely comes from *users* who have tried less sturdy equipment and *who know its over-all operating costs.*

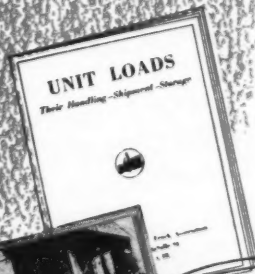
These experienced owners know the fallacy of cheaper equipment. They have told of price-tag "savings" quickly eaten up by inflated maintenance costs—or by losses arising from delayed operations. They have struggled against re-

peated interruptions in material flow caused by sending "a boy to do a man's job."

That, in short, is why the electric truck industry continues to build battery-powered trucks "*too good.*"

We feel that this policy has much to do with the fact that over 90 percent of the electric industrial trucks sold in the past twenty years to over 300 branches of industry and distribution are still in constant service.

Such would not be the case, we are sure, if high quality construction did not result in the *lowest over-all cost per ton of material handled.*



How *you* may assure economy, measured by that standard, is fully explained in two practical manuals: the MATERIAL-HANDLING HANDBOOK and UNIT LOADS. Your letter will bring them without charge.

## THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION

29-28D Forty-first Avenue, Queens Plaza, Long Island City 1, N.Y.



● IN THE FRUEHAUF LINE of all-steel bodies the combinations are practically limitless. Only 10 easy assembly operations are required to "build" the body of your selection. You can assemble it yourself, or any one of the 72 Fruehauf Factory Branches can complete the job for you in a matter of a few hours. Get full particulars about America's greatest Truck-Body value from your nearest Fruehauf Branch, your local Truck Dealer, or write us for free booklet.

BODY DIVISION  
**FRUEHAUF TRAILER CO. • DETROIT 32**  
 72 Factory Service Branches

**Custom-Built  
 Quality  
 Production-Line  
 Priced!**

**Industry-Famous  
 "AEROVAN"  
 Construction**

**MAXIMUM STRENGTH—  
 WITH MINIMUM WEIGHT!**

*Choice of 12—14—16 Ft. Lengths*

**72 SERVICE BRANCHES ...**  
 Each a Factory in Itself!

**FRUEHAUF**

**TRUCK BODIES**



# EDITOR'S PAGE



## *The Materials Handling Show*

THE SECOND Materials Handling Exposition, to be held in the Public Auditorium, Cleveland, Jan. 12-16, is another milestone in handling progress. The exposition not only will present in truly panoramic form the latest developments in handling equipment and techniques, but it will bring together equipment producers and users and, through the medium of talks, informal forum discussions and motion pictures, will drive home to the thousands of visitors attending the efficiencies and economies which are realizable through the use of modern methods.

Materials handling is of vast importance in our economy. It functions always at those points where one productive or distributive activity connects with another; consequently, handling costs affect costs in all phases of distribution. Transportation depends upon it. Nothing, from the raw materials to the finished products, can be transported by air, highway, rail or water without being handled both at the point of origin and the point of destination. Warehousing, as we know it today, could not exist without handling. It has been estimated that approximately 85 percent of all warehouse activities consist of the handling of goods and materials. Packing and packaging, together with all the auxiliary operations connected with shipping, entail handling in one form or another. Marketing costs are influenced by handling methods. Inefficient handling at any stage of distribution increases costs along the line and these costs are reflected in the prices consumers have to pay for goods. Finance and insurance also are affected by handling efficiencies, as also are service and maintenance. In addition, handling efficiency, which in itself is productive of tremendous economies, brings with it a bonus in the form of many incidental advantages. These "mechanical handling extras" which include greater utilization of storage space, the lessened possibility of damage to pallet stored goods from fire and flooding and the many other extras—have never, in our opinion been sufficiently stressed by the producers and sellers of handling equipment.

Elsewhere in this issue, Matthew W. Potts, our materials handling editor—who, incidentally, is to be chairman of one of the materials handling technical sessions at the Cleveland exposition—attempts to answer the question frequently asked by prospective equipment users: "Are handling equipment prices inflated?" Despite the fact that prices have increased approximately 50 percent since 1939, Mr. Potts is of the opinion that this increase cannot be charged off to inflation because of the marked superiority of present-day handling equipment over that existing in 1939. To take just one example

from the number cited by Mr. Potts: Two-wheeled trucks, he states, formerly were made "only with plain wheels mounted directly on steel axles. Very few trucks, including the rubber-tired hand trucks, were equipped with anti-friction bearings. Today, two-wheeled hand trucks are equipped with rubber-tired wheels, anti-friction bearings, lubrication fittings and specially designed frames of steel, wood, aluminum or magnesium, together with foot brakes and other accessories—all of which make for easier handling of materials. These improvements necessarily cost more money, but the price of this modern equipment cannot be compared with the cheap construction of the past." Similar improvements have been incorporated in all types of materials handling equipment.

Consequently, as Mr. Potts points out, management should base its estimates for plant handling improvement on prevailing prices since appreciable price declines in the months ahead are unlikely. On the other hand, it should be remembered that manufacturers are not producing materials handling equipment in the same volume as during the war emergency, and that this fact automatically tends to increase costs. But even should readjustments in production schedules result in higher prices, these increases cannot be compared with the economies and efficiencies which result from efficient handling methods.

## *Congratulations!*

FOR MORE than twenty years, leaders in the field of industrial traffic management and transportation have pointed to the need for an organization to further the interests of traffic management through the setting up of professional standards of knowledge, technical training, experience, conduct and ethics and through encouraging the attainment of the education and technical training requisite to the proper performance of the various functions of traffic management.

In the American Society of Traffic and Transportation, the organization of which was completed during the latter half of 1946, these aims are being brought nearer realization. The society now has passed its first milestone and its officers and board of directors deserve special commendation not only for their accomplishments thus far but for their seemingly resolute policy of self-determination. Both production and distribution stand to gain through the activities of this young organization. DISTRIBUTION AGE extends to the society its best wishes for continued success.

*D.J. Witherspoon*  
Editor

# DA NEXT MONTH

# LETTERS to the Editor

Some of the features scheduled for DISTRIBUTION AGE for February include:

**DISTRIBUTION COST PRESSURES** . . . Cost pressures created by the various activities involved in the flow of goods from the source of the raw materials until the completed products are in the hands of the consumers and users vitally affect prices and profits . . . DA staff experts and leading men in industry will discuss how these essential activities—transportation, handling, packing and packaging, warehousing, finance and insurance and service and maintenance are being coordinated one with the other in the interest of more efficient distribution.

**AIDS TO AIR TRANSPORTATION** . . . John H. Frederick, air cargo consultant, will discuss the controversial and little-understood subject of government aid to air transportation. Such topics as air mail payments, reduced taxes, research and the providing of airports will be taken up in detail along with other aspects of the subject.

**TRAFFIC MANAGEMENT AND COST ACCOUNTING** . . . G. Lloyd Wilson will discuss the important, but often neglected, relationship between traffic management and cost accounting. Some of the topics he will examine include: freight charges, passenger services, drawbacks and refunds, freight allowances by sellers, transportation contracts, insurance, demurrage, per diem charges, rate adjustments or reparation.

**WHAT IS YOUR PRICING POLICY?** . . . C. W. S. Parsons, M.E., consulting management engineer, will discuss the all-important subject of prices, probably of more general concern than any other factor in our national economy today, and will present a readjustment program for industry.

**A STREAMLINED WAREHOUSE OPERATION** . . . The Rexall Drug Warehouse at Los Angeles is designed to serve the needs of about 900 stores in Arizona, Nevada, New Mexico and southern and central California . . . Al Peschel, manager, will tell how it came into being and will discuss its facilities for streamlined operation.

## Truck Rates

Sir:

I want to congratulate you on the November issue of *DISTRIBUTION AGE*. It was a very fine collection of interesting, instructive and well written articles.

I was particularly interested in the article "Truck Rates Are Tailor Made" by E. E. McLane. The subject of the construction of motor carrier rates is of very great interest to me, and this article impressed me because it seemed to reveal some knowledge which is not accessible to the public. I am wondering if the figures quoted are based upon calculations made by the Central Motor Freight Bureau or by some other tariff publishing agency.

—Frank E. Asher, Traffic Manager, Schupper Motor Lines, Inc.

Editor's Note: Mr. Asher's note has been forwarded to Mr. McLane for his comment.

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## Felt Uses

Sir:

In the October issue of *DISTRIBUTION AGE*, you ran a photo of a propeller crated in plywood and wrapped in felt for airfreight. Our client, the Felt Association, is interested in all uses of felt, and we should like to make use of this illustration in a future issue of *Felt Facts*.

—Carol Newell, Korbel & Colwell, Inc., public relations consultants, New York.

o o o

## Warehousing

What is the law when a warehouseman moves stored goods from one location to another? If the warehouseman moves the goods from one location to another in the same warehouse is the warehouseman liable?

Mr. Parker, our legal consultant replies as follows:

Here is the law: All agreements and liability for breach arise from the same and identical elementary law that anyone who breaches a valid contract is liable for full damages sustained by the other contracting party. Hence, irrespective of detail testimony and contradictions, a warehouseman is liable for full damages suffered by the owner of stored goods resulting from the warehouseman's breach of either an implied or expressed agreement. Thus, if a warehouseman contracts to store goods in a specified warehouse he violates

and breaches his contract if he removed them to another warehouse without the owner's consent. And if the goods are lost, destroyed or stolen while in the new location the warehouseman is fully liable to the owner and without regard to ordinary laws defining the usual liability of warehousemen. Now, let us assume that a warehouseman stores goods in a warehouse and issues to the owner a receipt on which is listed the location of the goods, or irrespective of receipt provisions, the warehouseman permits the owner to inspect the goods in the selected location. In either case there is obligation on the warehouseman to store the goods in this particular location. This is so because if he issues a receipt on which is stipulated the location he expressly agrees to store the goods in this named location. If, on the other hand, the warehouseman merely permits the owner to see or know that the goods are stored in this location, there arising an implied contract on the part of the warehouseman that he will store the goods in this location, and if the warehouseman moves the goods to another location in the same warehouse, without consent of the owner, he breaches the implied contract. In both instances the warehouseman breaches his contract and is fully liable to the owner for subsequent loss of or damage to the goods. Now, let us assume that the warehouseman does not inform the owner where the goods are stored, and in fact the warehouseman merely agrees to "store" the goods. In such a case it is doubtful that a court will hold a warehouseman as an insurer liable in event the goods are lost or damaged, because there is neither an expressed nor implied agreement on the part of the warehouseman to store the goods in any particular warehouse or location. Of course, when the warehouseman gives the owner a contract or receipt having thereon the location of the goods the owner's consent should be obtained before the goods are moved.

o o o

Sir:

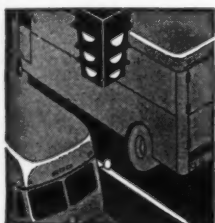
We would greatly appreciate receiving, if possible, the material listed below.

Tearsheets of article "Airfreight Saves Transportation Dollars" by C. S. Baxter, which appeared on pages 26 and 27 of the October, 1947 issue of *DISTRIBUTION AGE*.

—Virginia Pearson, in charge of library, Merchandise Testing and Development Laboratory, Sears, Roebuck and Company, Chicago.

Editor's Note: Tearsheets have been sent to Miss Pearson.

# CUSTOM-BUILT QUALITY with modern production economy



The advantages which have come to be regarded as characteristic of Gerstenslager Bodies result from custom-built craftsmanship allied with modern production methods.

We make use of improved production equipment as it becomes available. You get individualized truck and van bodies whose low maintenance cost helps you to meet the challenge of today's high overall operating expense.

We would be glad to tell you about the "Gerstenslager method" of providing custom-built quality at moderate cost.

**THE GERSTENSLAGER CO.**

Wooster, Ohio

**ESTABLISHED**

**1860**

# GERSTENSLAGER

*custom-built*

## Van Bodies

# See what NAILABLE STEEL FLOORING means to *Shippers*



If you ship goods in boxcars, gondolas or flatcars you'll want to know what NAILABLE STEEL FLOORING can do for shippers. Check these points that show how it can increase your car supply, cut damage to goods in transit and simplify freight handling.

## INCREASED CAR AVAILABILITY

In gondolas, NAILABLE STEEL FLOORING makes an all-purpose car suitable for *any* type of freight—finished goods, rough heavy materials, fine bulk freight. It does the job of *both* wood-floor cars and conventional steel-plate-floor gondolas. Empty car switching and assembling to provide equipment for the particular lading is drastically reduced. In boxcars, too, NAILABLE STEEL FLOORING cuts car suitability problems. Unlike present flooring, it's built to *stay* in good condition for all types of freight for the life of the car. If it's a NAILABLE STEEL FLOOR you *know* it will handle the freight.

## MORE PROTECTION TO LADING

With up to 400% greater nail-holding force than wood, NAILABLE STEEL FLOORING assures more

BULKHEAD BLOCKING BEING PLACED ON NAILABLE STEEL FLOORING. The channels are spaced to provide greater nail-holding force than that of wood—yet nails can be readily removed without damage to the floor. A self-sealing plastic in the nailing grooves prevents loss of fine freight carried in bulk.



secure blocking, less damage to goods in transit. No splinters or sharp edges can damage freight or injure men working in cars. Spilled liquids aren't absorbed; and can be easily cleaned off to avoid contaminating subsequent freight. When goods are shipped on NAILABLE STEEL FLOORS, there's a better chance they'll reach the consignee just as you sent them.

## EASIER FREIGHT HANDLING

No need to worry about fork trucks breaking through NAILABLE STEEL FLOORING; it readily supports the largest trucks used in boxcars. Unloading with shovels, scrapers and clamshell buckets is quicker and easier, because the surface is smooth, flat and free from splinters. The same qualities provide faster and more complete car cleaning, too.

These features of NAILABLE STEEL FLOORING add up to real advantages for shippers as well as carriers. If you haven't yet seen a car equipped with NAILABLE STEEL FLOORING, and would like to, write us, and we'll let you know when there's one in your area.

## GREAT LAKES STEEL CORPORATION

Steel Floor Division, Penobscot Bldg., Detroit 26, Mich.

UNIT OF NATIONAL STEEL CORPORATION

PATENTS PENDING



# A Quarter Century of . . .

## HANDLING LEADERSHIP



By MATTHEW W. POTTS  
Materials Handling Consultant

*DISTRIBUTION AGE is characterized as "the pioneer publication in the materials handling field" because of its consistent efforts to further the interests of mechanized handling during the past 25 years.*

**M**ATERIALS handling is not a separate or isolated activity, but one which must be integrated and coordinated with each, and all, of the eight basic distributive activities involved in the flow of goods from the source of the raw materials, through production, until the completed products are in the hands of ultimate consumers, or users. The need for such coordination is evident when it is realized that handling is one of the vital links which connect one productive or distributive activity with another. For more than 25 years, *DISTRIBUTION AGE* has been hitting this nail on the head as part of its much publicized concept that the various activities which make up distribution—handling and transportation, finance and insurance, packing and packaging, warehousing and marketing, and service and maintenance—are not isolated activities but as completely interdependent as the links in a chain.

As far back as the early "twenties," *DISTRIBUTION AGE* (then known as *D & W*) was actively promoting the interests of materials handling as a means to more efficient and economical distribution. In 1922, its first "Handling Number" appeared. Over the years, it has continued to pub-

lish articles dealing with the substantial economies which could be realized through mechanized handling equipment and techniques. It consistently has sought out and described early materials handling installations in order to further the spread of new ideas and to break down the inertia of the stand-patters who always have resisted change on the ground that the methods that were good enough for their fathers and their fathers before them were good enough for them.

During the course of this educational program, which has been maintained in good times and bad, many articles discussed, for the first time, the fundamental principles which are common to all materials handling systems. These articles constituted an authoritative source of materials handling information, which was tapped by the armed services during the war emergency. This basic information produced the Navy's Materials Handling Manual (Illustrated Nomenclature Section) and contributed largely to other handling manuals produced for the armed services. In addition, it served as a basis for many of the military training courses held in universities, colleges, camps, depots and advance bases for army, navy and air corps personnel.

Today, materials handling is generally recognized as an important function of industrial management but, we are prone to forget the pioneering efforts which have contributed to its present importance. The writer, who has watched materials handling grow from a problem child with an uncertain future into sturdy adolescence, feels privileged to have contributed to this publication's efforts to foster its development. It is gratifying now to be able to say that *DISTRIBUTION AGE* was among the first business publications to discuss:

The need in production and distribution for materials handling system.

The need for larger and better freight elevators, designed for materials handling.

The use of conveyors, of all types, in warehousing transportation and shipping.

The need for better and more scientifically designed slings for handling cargoes from piers to ships.

The use of light, portable conveyors.

The use of anti-friction bearings and rubber-tired wheels for hand trucks.

*(Continued on Page 87)*

## A decorative banner with stars. The banner is a thick, black-outlined ribbon that curves across the page. It is surrounded by several small, five-pointed stars of varying sizes. The banner is empty, serving as a placeholder for text.

## A black and white portrait of a middle-aged man with dark hair, wearing a dark suit jacket, a white shirt, and a dark tie. He is looking slightly to the left of the camera with a serious expression. The background is a plain, light-colored wall.

**W**HAT does 1948 hold for the railroads so far as freight traffic and service are concerned? According to estimates based on the best information now available, railroad freight traffic during the coming year will remain at a high level. It is expected that the railroads will be called upon to produce about 2.7 percent less freight transportation service than in 1947, when the total ton-miles were approximately 45 percent above 1929, the peak freight traffic year before the war.

(Continued on Page 38)

By **TED V. RODGERS**  
Chairman, Board of Directors  
American Trucking Assns., Inc.

A black and white portrait of a middle-aged man with a receding hairline, wearing a dark suit, white shirt, and a striped tie. He is looking slightly to the right of the camera with a neutral expression. The background is a mottled, textured grey.

Fabian Bachrach

(Continued on Page 38)

By **FRANK J. TAYOR**  
President  
American Merchant Marine Institute

That these passenger ships will be built is indicated by the firm recommendation made recently by President Truman's advisory committee on the merchant marine. Their proposal, which has already evoked favorable response from



**Fabian Bachrach**

(Continued on Page 89)

# Distribution . . .

## Air Transportation

By VICE ADM. EMORY S. LAND  
President  
Air Transport Assn. of America

IN 18 months the volume of air freight in domestic movement has increased about 12 times. In early 1946 a monthly average of 275,000 ton miles of air freight was carried by the scheduled domestic airlines. The current volume is between three and four million ton miles each month.

These figures provide some index to the recent growth of air freight. Yet it is growing so rapidly, because of reduced rates, additional facilities, improved services and promotional activities that there is substantial basis for an estimate of the year's total of air freight reaching 54 to 60 million ton miles.



Wide World

There has been considerable activity in the matter of freight rates. There are now 19 certificated airlines aggressively engaged in the air freight business. On August 1, 1947, there became effective a consolidated air freight tariff which had been filed on behalf of these airlines by Air Cargo, Inc. It contains more than 7,000 joint rates between certi-

(Continued on Page 38)

## Inland Water Transportation

By CHESTER C. THOMPSON  
President  
American Waterways Operators, Inc.

THE Inland or Domestic Water Transportation Industry looks forward to 1948 with much confidence and encouragement. It believes the prospects for continued growth and expansion are most favorable. More and



Reni Newsphoto

more shippers and receivers of freight are becoming aware of the advantages of inland water transportation in reducing costs of distribution, particularly of bulk commodities.

The Domestic water carriers and operators found 1947 highly satisfactory from a traffic and tonnage viewpoint. There was unfortunately a marked shortage of floating equipment during the past year, notwithstanding the fact that hundreds of new units, both cargo barges and towing vessels, were built and placed in service. The rate structure became fairly well stabilized during the past year and the industry has practically completed its conversion from a war to a peace time basis.

It is expected that the spiral of increased operating costs, so evi-

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## Merchandise Warehousing



Harris & Ewing

By CLEM D. JOHNSTON  
President, Mdse. Div.  
American Warehousemen's Assn.

THE present backlog of orders in American industry is so large as to warrant the belief that the volume of business during the first half of 1948 will compare favorably with the similar period of 1947.

Exports, particularly aid to Europe, now constitute such a considerable proportion of our present total production that any forecast of conditions beyond mid-1948 must depend upon the action of Congress and the Administration on the Marshall Plan and similar proposals. Provision by Congress for five or ten billions of American aid to foreign countries could result in marked inflationary rises. Failure to provide such aid would doubtless touch off a marked recession in prices with an attendant, but lesser, decline in production.

Merchandise warehousemen throughout the country are still confronted with the perplexity of

(Continued on Page 91)



## Materials Handling

By SAMUEL W. GIBBS

President

Material Handling Institute, Inc.

RATHER than make an out-and-out forecast for 1948 of things about which we can only guess, I believe it more expedient to state some actual facts regarding the future of materials handling, from which you can draw your own conclusions. With the break-even point having risen from a pre-war level of 47 percent of capacity operations to a present level of as high as 67 percent of capacity, the handling of materials seems to be the one spot, if not the only spot where substantial savings can be made in production costs. As a result, not only such organizations as the Material Handling Institute of Pittsburgh, are intensifying their efforts, but manufacturers too, grasping frantically at any means to cut product costs, are becoming intensely conscious of the terrific waste incurred in antiquated methods of handling materials.

As a result of this situation, a national drive to lower costs of handling raw materials, as well as finished products through more scientific methods, is already now in process. Unit costs of handling industrial materials have gone up so high that in a recent survey of handling practices in more than 25 cities it was found that industrial leaders now welcome installation of new types of handling

equipment which mechanize high-cost jobs and enable management to regain low over-head expenses in almost every field of production and transportation. In one case, the survey showed that the sales volume of a metal plant now has to reach more than 50 million dollars in order to attain profit levels formerly reached at a 10 million dollar annual sales volume. So it can be readily understood why such plants are having their production managers work with material handling engineers, in order to cut these extremely high costs.

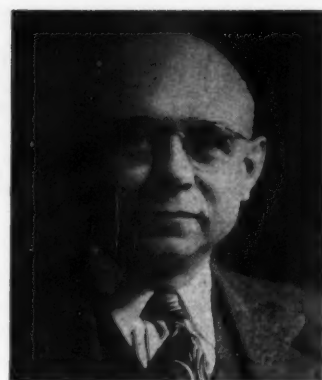
Lending aid to manufacturers in this problem, the Material Handling Institute is sponsoring local materials handling clubs and furnishing the members with data and technical information from manufacturers of such material handling equipment as cranes, hoists, trucks, conveyors, etc.

These clubs are also being furnished a plan of operations, a charter, planned programs for meetings, aid in obtaining speakers, organization of essential equipment exhibitions in cities suitable for educational trade shows, and cooperation with container manufacturing and packaging experts.

Needless to say, manufacturers the country over, from the smallest to the largest, are interested in this program, may of them having already participated to the extent of surveying their plants to determine the spots where production costs can be cut by the adaptation of more efficient handling methods.

I think that you will find during the next year, or for that matter the next few years, that those manufacturers who already have materials handling equipment installed, will come to realize that the mere acquisition of such equipment is not the entire answer to their materials handling problem. As a result, they will take a second, more careful, look at their production lines and plant layouts with an eye to making their materials handling equipment work even more efficiently. For merely having materials handling equipment around the plant, without any planned method for the use of that equipment, is neither suffi-

(Continued on Page 91)



## Packing and Packaging

By R. F. WEBER

Chairman of the Board

Industrial Packaging Engineers

I BELIEVE much of the progress to be made during the next year in industrial packaging will result from intelligent, well-directed research in the various phases of the field. Intensive research will, I am sure, result in economies and packaging improvements that will be very gratifying.

The I.P.E.A.A., and other similar organizations, support in many ways the belief that, through materials handling and packaging research, the way will be opened to significant improvements. These organizations are also making great progress in the training of industrial materials handling and packaging engineers. There is no question in my mind that such an approach, that is, the further education and training of the persons working in the field, will yield a tremendous harvest of improved methods and reduced costs.

I am convinced that palletization of packaged materials will be better and more widely done in the next year and that such a course will result in improved product protection thus reducing losses due to damage and will minimize the number and magnitude of damage claims.

Closely allied to this is the problem of loading. Without a doubt, there will be many improvements in the methods of loading. It

(Continued on Page 89)



# PRACTICAL QUALITY CONTROL



Composite picture of operations at Ward laboratory.

**Forward-looking distributive agencies are becoming interested in practical methods of controlling merchandise quality . . . Montgomery Ward & Co. has set up a Quality Control Department which tests merchandise, inspects manufacturing sources, provides standards, clears merchandise irregularities and reports to management on merchandise deficiencies.**

By RANDALL R. HOWARD  
*Special Correspondent*

RECENT shortages in manufacturing materials and the active demand for consumer goods have stimulated increasing interest among forward-looking managements in the merchandising field in practical methods for the quality control of the goods they are distributing.

However, the setup and maintenance of a quality control program by a large distribution agency involve complex administrative problems. They arise from the fact that the responsibilities of such a program must be distributed among various company divisions, the activities of which are diversified. The divisions chiefly concerned usually are merchandising and operating. The typical merchandising division of a large company is responsible for procure-

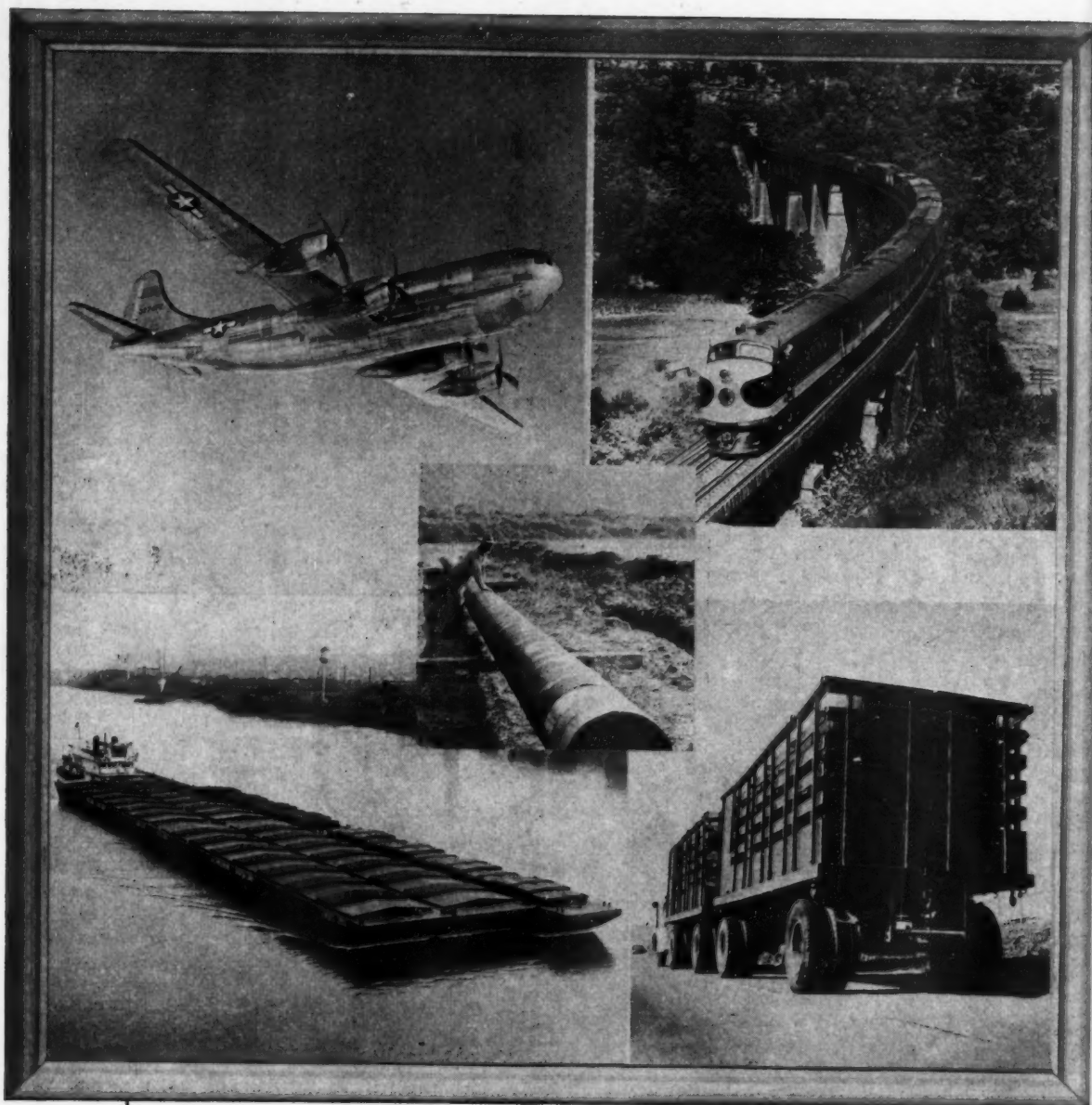
ment and pricing, and the delivery of merchandise to customer outlets. On the other hand, the operating division is responsible for customer service, which involves well-planned stock, efficiency in materials handling, inspection, packing and packaging, and the maintenance of properties.

An interesting example of how one large company is handling the complicated problem of quality control of merchandise is afforded by Montgomery Ward & Co., which has about 85 thousand employees. This program covers the establishment and maintenance of quality standards for the 100,000 items of merchandise listed in the company's 1200-page catalog and distributed for customer sales through ten regional mail order houses, over 600 company-owned

retail stores, and 240 catalog order offices.

In this Ward program, general coordination of essential facilities and activities is achieved through the quality control department, which is a part of the general operating division of the company. This department is under the direction of Gerald C. MacDonald and it has a staff of about 100 persons. The department is responsible for the following groups of services:

1. "Testing of merchandise and technical consultation service" . . . These activities are centralized in the Chicago testing laboratory, which is rated as one of the largest and most complete of the type in the world. It is supplemented  
(Continued on Page 80)



### TRANSPORTATION IN THE UNITED STATES

30,500 miles of navigable inland waterways served by over 11,000 vessels, and over 8,000 miles of coastal and intercoastal water routes . . .

1,302 railroad corporations operating 230,000 miles of road . . .

26,200 trucking companies and over 1,500 bus companies operating more than 5,000,000 trucks and busses on nearly 1,500,000 miles of hard surfaced roads . . .

Over 3,000 airports, with plans for 3,000 more, and approximately 35,000 lighted airline miles . . .

125,189 miles of pipelines, not including the war babies, Big Inch and Little Big Inch.

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# THE NATIONAL TRANSPORTATION PICTURE

By JOHN H. FREDERICK  
*Air Cargo Consultant*

**DA's Air Cargo Consultant explains his work as consultant to the House Committee on Interstate and Foreign Commerce, which inquired into the various aspects of the complex transportation problem in America, and discusses the findings of the committee.**

**I**N the field of transportation this country, at the close of the war, was faced, and still is faced, with most perplexing and vital problems. Such problems are vital because the agencies of transportation constitute a connecting link between our producing machine and the consuming public. Without adequate, economical transportation of various types our whole economy can become seriously impaired. The problem of transportation might generally be said to be of three different types: (1) Those that call for legislative treatment or remedy; (2) problems of administrative character growing out of legislative authority; and (3) problems of management and ownership.

## The Background

Shortly after the close of hostilities in World War II the Committee on Interstate and Foreign Commerce of the House of Representatives realized that failure to provide legislative remedies to meet the needs of our transportation system or failure to focus the thought of leaders in the transportation field upon their own responsibility, apart from legislation, in meeting their postwar problems might prolong by years the nation's period of reconversion to peace or might even throw our economy into chaos. It, therefore,

assumed its responsibilities by proposing an inquiry into the various aspects of the situation which was authorized by House Resolution 318, adopted March 7, 1946.

## The Problem

In approaching the many problems it was realized that they involve a general transportation system, a system composed of important competing agencies including rail, motor, water, air and pipe lines. The problems are moreover complicated by the fact that each of these types of transportation are capable of performing a service that in some respects has advantages over all of its competitors. This means that the nation has the problem of coordinating different types of transportation with a view to best serving the interest of the shipping and traveling public with fairness to the competing agencies.

At the beginning of the war, our country had 30,500 miles of navigable inland waterways served in peacetime by over 11,000 vessels; over 8,000 miles of coastal and inter-coastal water routes competing with our rail and highway carriers. There are 1,302 railroad corporations in the United States, of which 136 are so-called class I roads, operating 230,000 miles of privately-owned lines and terminals. From less than 10,000 miles of hardsurface highways in 1919, this country now has nearly 1½ million miles of such roads, 230,000 miles of which have received federal aid. 26,200 trucking companies and over 1,500 motor bus companies operate more than 5

million trucks and busses over this network of roadways. There are now over 3,000 airports in the United States; the Civil Aeronautics Authority has plans for 3,000 more. There are approximately 35,000 lighted airline miles. There is a vast network of pipe lines throughout the United States. These facilities are being expanded and are a potent force in the changing areas of production and distribution.

These transportation agencies all demonstrated their ability to perform a great service to our nation during the war. To a very large extent all of them have been developed without proper coordination with each other. Each has its own economic problems; each is highly competitive with the others, yet, each is a useful part of our transportation system.

The public is paying a tremendous bill for all of these services, both through direct charges and taxation. The services of all these agencies intimately touch the daily life of every citizen. Those engaged in agriculture and industry are dependent on efficient transportation to move their products to consumers at the lowest possible cost. This nation cannot prosper and can scarcely exist without an adequate and efficient system of transportation.

In the light of profound changes in the economy of this industry and its relation to the country, it is perfectly apparent that we must adjust legislation and administra-

*(Continued on Page 76)*

Editor's Note: This is an address by Dr. Frederick, Professor of Transportation, College of Business and Public Administration, University of Maryland, and Consultant to the House Committee on Interstate and Foreign Commerce, before the American Petroleum Institute, Chicago, Nov. 12, 1947.

# JOINT COST

**One of the most difficult technical problems in transportation and traffic management is that of joint cost as affecting rate-making; particularly as the problem is complicated by economic considerations of a theoretical nature . . . The concept of joint cost has been used in economic analysis in connection with the pricing of commodities or services when the production of one necessarily results in the production of another or several other commodities or services.**

- 1. It occurs in agriculture, when the growing of one product produces another, as in the case of cattle raising where beef and hides are raised simultaneously with the cattle.**
- 2. It occurs in the processing of agricultural or dairy products, such as the production of cotton fibres and cotton seed in the processing of raw cotton . . . or where butter and buttermilk are the simultaneous resultant products of the processing of whole milk.**
- 3. It occurs in industrial operations where several products, or a major or primary product and one or more by-products are produced at some stage of the manufacturing process.**
- 4. It occurs in the industrial preparation of raw materials for use in industry, such as production of coke, tar, ammonia, and coal-tar products in the coking plants of the steel industry.**

*This article discusses the line of demarcation between true joint cost and overhead cost.*

**T**HE line of demarcation between true joint costs and overhead cost is difficult to trace precisely. Overhead cost may be defined as the items of general, indirect, or undistributed cost as distinguished from the items of expense which are allocated to a particular product or service. In accounting, overhead costs are considered to be the general costs incurred collectively in the conduct which cannot be charged to any particular phase of the work or product. These charges include rentals, insurance, administrative expenses, and other items of general expense. Overhead cost is not necessarily fixed in the sense that it does not vary with the volume of business or with the amount of service rendered, but it is general since it applies to operations generally rather than to particular operations. As the term "joint cost" is sometimes stated, the users are referring to general or overhead costs which cannot be traced to any one operation or process. These are costs which are incurred in the operation of the industry or business as a whole. This use is believed by this writer to be improper. The costs which can be traced to one operation or process of the industry or business which produces several products are true joint costs. These costs occur whenever a single operation or series of operations or processes result in more than one product or service. The resultant products or services are separate and distinguishable. The production of one necessarily results in the production of the other. The total costs of a single operation or process cover the jointly produced goods or services, although part



# IN TRANSPORTATION

By G. LLOYD WILSON

of the costs, after the separation, may be separate.

Professor F. W. Taussig considers joint cost as a fundamental factor in railway rates because the services are produced, at least in part, under conditions of joint cost, and to this joint cost "each commodity or service will contribute in proportion to the demand for it."<sup>1</sup> He concludes from the study of the principal groups of items of railroad expenses, "1. maintenance of way; 2. motive power; 3. maintenance of car equipment; 4. conducting transportation; and 5. general expenses and taxes," that some of the items in these groups of expenses "are obviously in the nature of joint costs." He identifies with this group of costs those incurred for maintenance of way and structures, general expenses for administration, insurance, legal expenses, taxes considered as cost, which "may be considered as joint costs." This is the group of costs which are relatively fixed charges and untraced costs.

Of the other expenses, Professor Taussig finds many expenses, including "wages of switchmen and yardmen, telegraph expenses, repairs to locomotives, maintenance of cars, and other expenses, due chiefly to wear and tear from the traffic as a whole and not assignable to any particular part of it."<sup>2</sup>

While one may agree with Professor Taussig that these expenditures are occasioned by the operation of the transportation facility as a whole, one hesitates to conclude that they are true joint costs. Rather, one is inclined to

the view that they are general or untraced costs, which, although not allocatable to any particular movement or operation with accuracy, are not costs of the production of simultaneously produced services resulting from a single transportation operation.

Professor W. J. Ripley, although expressing the view that the general law of joint costs holds good in the transportation industry, referring particularly to railroads, appears to identify joint costs with general or untraced costs. He states that the cost of each shipment is "largely joint and indeterminant" because a large part of the plant is "indistinguishably devoted to the general production of transportation without reference to particular units of business."<sup>3</sup> He refers also to evidence of jointness in cost in the fact that a large proportion of the expenditures for freight and passenger services are "entirely joint," approximately two-thirds of the out-go being "on behalf of the property as a whole," so that "we are quite at sea in the allocation of expenses."<sup>4</sup>

He argues that the subordination of distance to other factors in freight-rate making is "a logical derivation from the theory of joint cost," which justifies the classification of freight resulting in a wide range of rates adjusted to what each commodity will bear, although allowing each commodity to contribute something toward fixed and joint expenses.

He concludes that freight-rate making upon the principle of joint cost is "fundamental and compre-

hensive," but rests upon two basic assumptions which "while generally valid, are not universally so": 1. each increment of traffic must be new traffic and not that drawn by competition with another carrier which is offset by a loss to that competitor; and 2. "each increment of traffic must be economically suitable to the particular traffic in contemplation."<sup>5</sup>

It would appear that Professor Ripley considers joint costs and untraced or unallocated costs to be identical, but the weight of the factual evidence and the force of logic suggest that this is not strictly accurate.

Professor Emory R. Johnson and Thurman W. Van Metre define joint costs as "those which are paid out for the maintenance of the service as a whole and which have little direct connection with any particular act of transportation." These costs include capital costs, taxes and other fixed charges, and some operating expenses and what are usually referred to as variable charges.<sup>6</sup> This interpretation appears to coincide with Professor Ripley's interpretation of joint costs.

It appears to be more accurate to describe joint costs as the costs which are incurred in a particular transportation service, such as the movement of a freight train from A to B, which produces simultaneously a number of services, the costs of which cannot be precisely allocated to each service, so that resort has to be had to some other device for setting the prices for the services. This can be done by making the price for each service

<sup>1</sup> Taussig, F. W., *A Contribution to the Theory of Railway Rates*, *Quarterly Journal of Economics*, Vol. V, No. 4, Harvard University, Boston, July 18, 1891, p. 444.

<sup>2</sup> Op. cit., pp. 446-447.

<sup>3</sup> Ripley, W. J., *Railroads: Rates and Regulations*, Longmans Green, New York, 1913, p. 68.

<sup>4</sup> Op. cit., p. 69.

<sup>5</sup> Op. cit., pp. 265-268.

<sup>6</sup> Johnson, Emory R., and Van Metre, T. W., *Principles of Railroad Transportation*, Appleton, New York, 1916, pp. 339-342.

with reference to the relative demand for the services.

Professor Taussig has stated the opinion that railway transportation services are produced under conditions of joint cost because he considered the transportation services for different commodities to be different; but on the contrary, Professor Pigou considers that the transportation produced by railways to be a homogeneous "commodity" or service-ton-miles. "The fact that some 'carrying of tons' is sold to copper merchants and some to coal merchants does not imply that two different services are being provided, any more than does the fact that some plain cotton cloth is sold in England and some is sold abroad implies that two different commodities are being provided. The popular acceptance of the contrary view can only be due to the fact that we happen to speak of 'transport of copper' and 'transport of coal' instead of speaking of transport sold to copper merchants and transport sold to coal merchants. An accident of language has caused an important field of economic inquiry to be dominated by a doctrine which is essentially unsound."<sup>7</sup>

The present writer cannot agree to the concept that all freight transportation services such as the transportation of coal and copper generally are subject to joint cost conditions, but if parts of a transportation unit of service—a railroad freight train or car, a motor truck unit or a steamship—operated from one point to another transport simultaneously different shipments of copper and coal and other commodities in the same operating unit; or if a train or other vehicle operated on a regular schedule carries different shipments of coal in one direction and copper or iron ore in the reverse direction, then the costs are joint costs, provided the services performed are really different. It consists of the production in one unit of operation of different services in an identifiable unit of transportation operations. The operation must be in a transporta-

tion unit of work incurring costs which cannot be specifically allocated, but which must be divided among the services rendered according to their relative demand.

It is apparent that part of the difficulty in the Taussig-Pigou debate on this subject is due to the failure of Professor Pigou to recognize the ton-mile for what it really is. The ton-mile is not a transportation product, but the unit by which the transportation product—the service—is measured. It corresponds to the yard by which the cloth to which he refers is measured and it is not the product itself.

Professor J. M. Clark in *Studies in the Economics of Overhead Costs*, states: "Used loosely, the term [joint cost] may be virtually equivalent to untraced cost, or constant cost, or indirect cost. In its origin, however, the term had to do with a special problem, namely that of by-products, and it is more useful if it is confined to its original meaning."<sup>8</sup> Originally, Professor Clark used the term in its loose sense, but later he used it in the more restricted, and in what the writer believes to be the more accurate sense.<sup>9</sup>

Professor Donald H. Wallace has stated accurately: "Precise distinction between joint and overhead cost is indispensable; and formulation of rate policy appropriate to each is no less necessary."<sup>10</sup> The same comment might be made with equal appositeness to any pricing policy with respect to jointly-produced products.

Joint costs occur in transportation whenever an outward and a return movement of equipment is necessary in order to perform transportation operations. A simple illustration of the operation of joint cost is the expense of the operation of a motor truck from A to B when the truck must be returned from B to A in order to make the truck available for

further operations from A. The cost of operating this service is not the expense of operation from A to B only, but to these must be added the expenses of operation from B to A. If we assume that no traffic is hauled from B to A, the revenues derived from service performed from A to B must be considered in comparison with the costs of operation from A to B, plus the costs of operation from B to A. If some traffic is hauled from B to A, the total revenues on the traffic from A to B, plus that earned for the service performed from B to A, must be compared with the joint costs of operation A to B and B to A.

The problem is complicated in transportation industries where equipment is not moved directly back in order to complete a two-leg round trip, but where the operation is conducted over triangular, quadrilateral or multi-lateral routes. It is complicated further when the goods-carrying equipment such as trailers or semi-trailers in motor transportation, freight cars in railroad service, or barges in waterway services are dispatched over irregular routes and the power units, motor tractors, rail locomotives, or tow-boats, are operated in more regular out-and-back schedules.

Without regard to these complications, the crux of the matter is that the services are performed under conditions of joint cost. The true costs of movement of goods from A to B cannot be ascertained without considering the costs of performing the services from B to C, C to D, D to E, and E to A, and without considering the revenues earned from each of these operations. This aspect of joint cost tends to merge almost imperceptibly into what Professor Clark calls untraced costs.

This difficulty may be avoided by careful selection of the unit of service or performance in connection with which joint costs are studied. If the freight carrying equipment is used as a basis, the costs of performing the services rendered by a railroad freight car or barge must be traced movement by movement until the costs blur

(Continued on Page 90)

<sup>7</sup> Pigou, A. C., *Wealth and Welfare*, Macmillan, London, 1912, pp. 216-217.

<sup>8</sup> Clark, J. Maurice, *Studies in the Economics of Overhead Costs*, University of Chicago Press, Chicago, 1923, pp. 58-59.

<sup>9</sup> Idem., — *Standards of Reasonableness in Local Freight Discriminations*, Columbia University Studies, Vol. 37, No. 1, New York, 1910, p. 24.

<sup>10</sup> Wallace, Donald H., *Joint and Overhead Costs and Railway Rate Policy*, Quarterly Journal of Economics, Harvard University Press, Cambridge, Vol. XLVIII, No. 4, August, 1934, pp. 597-598.

# SHIPPING CONTAINER REDUCES INSURANCE COSTS

*Dravo Corporation's new steel shipping container, which fits 'tween decks or on railroad cars, greatly reduces danger of breakage and pilferage, and slashes materials handling costs as much as 70 percent.*



**T**O facilitate loading and unloading operations and minimize breakage and pilferage of merchandise shipped by water carriers, railroads and some motor freight carriers, Dravo Corp. has developed a 277-cu. ft. welded steel, interlocking, weathertight shipping container, designed to carry loads up to 12,000 lbs.

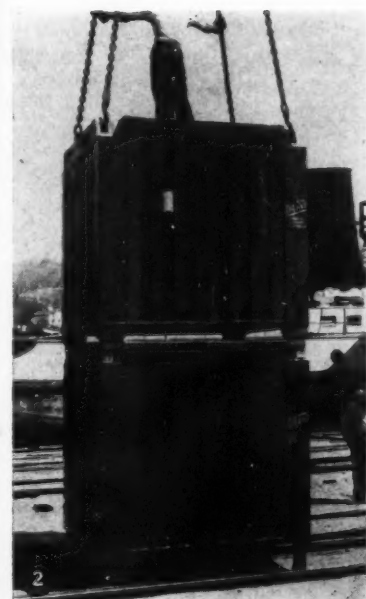
Use of the Dravo container is expected to help solve the serious problems of pilferage and increased cargo handling costs. The latter are reported currently to be a third to two-thirds higher

than before the war. Also, use of the container will eliminate the need for a considerable amount of packaging materials, procurement of which has been difficult. They will enable faster cargo loading, resulting in quicker turn-around time for all types of freight carriers.

In a trial shipment of 12 containers between an east coast port and Puerto Rico, materials handling costs were reduced 70 percent. Tying expense is said to have been cut about 90 percent while

*(Continued on Page 81)*

1. An overloaded shipping container positioned on two beams, simulating the forks of a fork truck.
2. Two shipping containers fastened together are lifted by a bridle from a crane boom hooked around the roof lugs.
3. A container being loaded with a test load of 14,000 lb., a ton more than the design capacity. Bale capacity is 276 cu. ft.



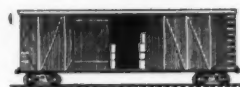


# Solving the Car Shortage



By H. E. SHUMWAY

General Superintendent of Transportation  
Union Pacific Railroad Co.



*The Union Pacific is able to alleviate the freight car shortage through a newly established Car Efficiency Bureau.*

**N**CESSITY, now as always is the mother of invention. With additional freight cars not forthcoming during the early part of 1947 to meet heavy traffic requirements, the only answer seems to be in greater utilization of cars already available.

It was our conviction that direct, immediate, "on the ground" corrective action, especially at the larger terminals, in speeding up release of cars under load, moving them from industry tracks after release, promptly repairing and reconditioning empty cars, and expeditious movement of serviceable cars to loading districts would do much to alleviate the discomfort of shippers and railroads alike. Both lose revenue in times of car shortage.

To cope with this problem, a car efficiency bureau was organized. Established in April, 1947, as a part of the department of the general superintendent of transportation, Omaha, the car efficiency unit works in conjunction with the car distribution bureau. Similar offices in the Los Angeles, Salt Lake, and Portland districts report to the Omaha or head bureau.

The bureau consists of a transportation assistant with a force under his direct supervision. The general superintendent of transportation follows all matters through the assistant. Paramount in fast and smooth operation was the immediate augmentation of a staff of experienced "field" men. This staff consists of eight compet-

ent transportation inspectors located at strategic terminals and assigned to certain defined districts, including outlying points.

These inspectors are all seasoned "trouble shooters." They work out in the field at all times. The old long-range, wishy-washy method of coaxing various railroad departmental heads and employees to facilitate the movement of equipment, with the accompanying lengthy reports about what they find wrong, has been definitely discarded. Instead, when a sluggish condition is discovered, the inspector immediately makes direct contact with the general yardmaster, local freight agent, storekeeper, general car foreman, or other officers in charge, and ends with an understanding that irregularities will be corrected, not "next week," not "tomorrow," but "right now."

In case of heavy accumulations of revenue car load shipments for unloading, Union Pacific traffic representatives are called to accompany inspectors and confer with the consignee. Cooperation is solicited for the prompt release or regulation of inbound shipments, a course of action which invariably gets results. Similar action is taken in event shippers are slow in loading and billing outbound shipments.

Inspectors do considerable traveling over the line. For instance, when the open top car situation becomes tight and additional coal cars are needed for loading, they do not wait for a miracle to

happen, but are found riding gravel or ore trains from point of origin to unloading station or district. They check the time consumed in the loading, movement, unloading and return of empty cars to pit or mines for reloading. In this manner, all slack is taken up and the cars provided where needed.

The bureau head gives general supervision to inspectors' activities, keeping in constant touch with them at all times, advising them of changing conditions, car requirements, etc. These men are car efficiency experts and are doing much to reduce detention to freight equipment and to keep cars in active service. Daily reports of their activities are forwarded to the bureau at Omaha.

Empty equipment in immediate demand is treated with the same dispatch as that loaded with perishable or other high-class commodities. The movement of the cars is followed closely as that of loaded cars.

Empty refrigerators, which are urgently needed in western perishable loading districts, are operated in special trains on manifest schedule from Missouri River terminals to Utah, Idaho and California territories.

To further expedite release and movement of freight equipment, in case of shortage, agents are required to furnish brief, daily telegraph or mail reports showing individual numbers of empty cars delayed over 24 hours for loading

*(Continued on Page 51)*



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FORM 1-55

# DAILY TELEGRAPHIC FREIGHT TRAFFIC MOVEMENT, AS OF 1000 A M STANDARD TIME

Division \_\_\_\_\_

## "CZ"

### LOADING CARS ON TRAINS EASTWARD

Date of Equipment	Train										Empty CARS IN TRAINS EASTWARD									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Equipment Number	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Number in Train																				

### EMPTY CARS IN TRAINS WESTWARD

Date of Equipment	Train										Empty CARS IN TRAINS WESTWARD									
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### LOADING CARS ON TRAINS WESTWARD

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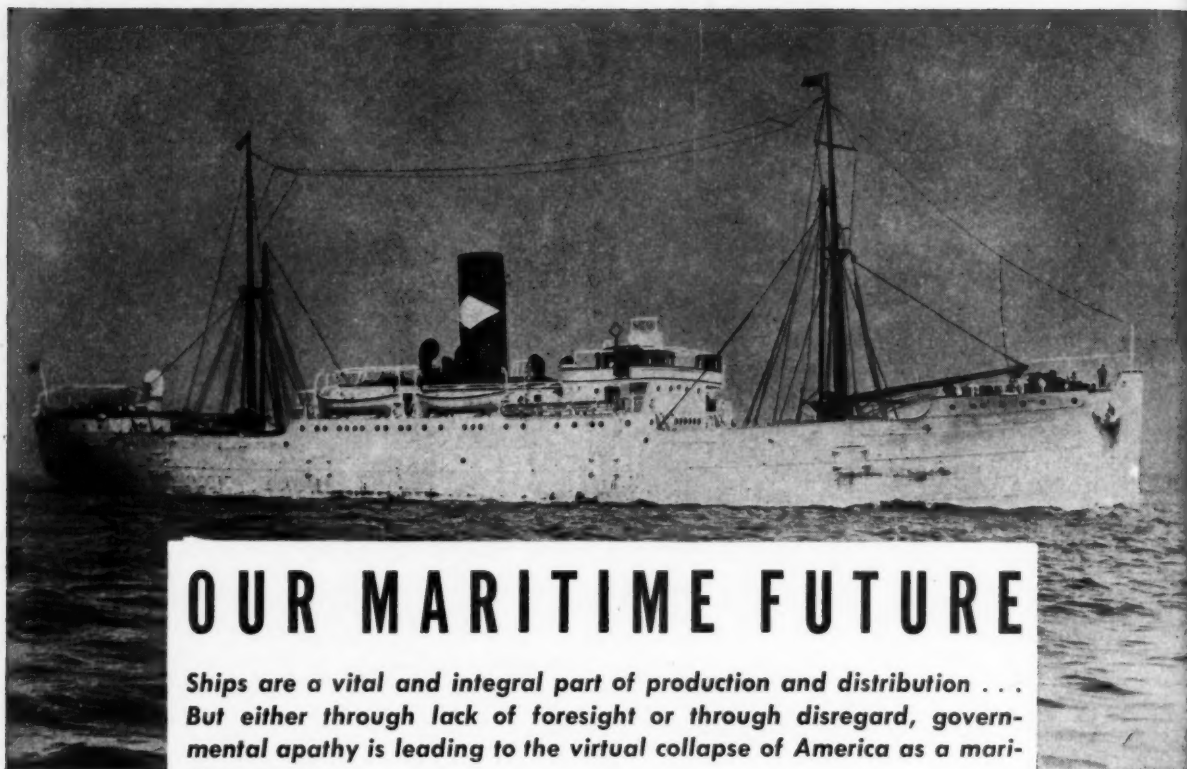
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### LOADING CARS ON TRAINS EASTWARD

Date of Equipment	Train										Empty CARS IN TRAINS EASTWARD									
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## OUR MARITIME FUTURE

*Ships are a vital and integral part of production and distribution . . . But either through lack of foresight or through disregard, governmental apathy is leading to the virtual collapse of America as a maritime power.*

**D**URING the war years, the United States merchant marine was called the "nation's second line of defense"—and fittingly so. With the coming of peace after four years of war, however, many people forgot the merchant marine that had performed such marvelous feats of supply, and forgot also the fact that this same merchant marine had become, with the advent of the peace, the nation's first line of defense in the economic and industrial field of conflict.

In the present war against the forces of disease, famine, want, despair and death that stalk over a major portion of the world, the United States has stepped forward to take a preeminent part. Food is being distributed to the less fortunate nations of the world at a tremendous rate; farms are pouring great wealths of grain and meat to the processors; clothing, agricultural machinery, fuels, building materials, tools and other supplies are being hurried across the oceans in a grim battle with

By **RALPH J. CHANDLER**  
Vice President  
Pacific American Steamship Assn.



Gladser

Mr. Chandler, Vice President of the Pacific American Steamship Association, has been a top drawer executive in the water-borne shipping industry for more than a generation. Among his many honors he ranks as the founder president of the Propeller Club of the United States, Port of Los Angeles No. 66.

time, the elements, and death itself.

Few will stop to think of the agency that carries the great bulk of these supplies across the ocean. The sturdy warbuilt hulls of the Liberty and Victory fleets of freighters, the C2 and C3 cargo ships, and dozens of other varie-

ties of shapes and ships will serve as the carriers that deliver cargoes of mercy and life to waiting millions in every section of the war-devastated world.

The need for these relief cargoes eventually will cease as the rest of the world slowly and laboriously drags itself back to a normal economic condition and resumes its rightful place in the productive scene. It is then that the industrial strength of the United States will have its real trial. In open competition for world trade, it will be the product that is on the market in quantity, of highest quality, and with the definite assurance of rapid delivery that will get the order. Competing with the production centers of the world, it is up to the United States to see to it that its merchant marine is fully prepared, equipped and ready to serve the private shipper of goods once more.

Lacking exact knowledge of the maritime industry, the average shipper or receiver of goods in the United States has been unaware

of the importance of the cargo ships of the American merchant marine. Our ships form as vital and integral a part of his production system as the lathes that line the floors of his plant, or the labor that operates them and the suppliers of parts and tools that keep his factory running at full blast production. It must never be forgotten that the supply of raw materials and the distribution of the finished product to and from a world market are wholly dependent upon water transportation, with negligible exceptions. This is the vital factor in any business enterprise—the supply of the raw materials with which to shape the finished product, and the distribution of this finished product to waiting markets and a buying public the world over.

We must definitely depend upon supplies of raw materials outside the limits of this country to keep many of our industries productive. The scramble to produce adequate substitutes for materials during the war, and the serious depletion of our national stocks of such items as iron ore, oil and other essentials serves as ample proof of this statement. The continuous flow of such vital materials as rubber, copra, hemp, tin, bauxite, chromite, manganese ores, oil, sugar, shellac, jute and nitrates depends upon just one factor—shipping. The huge volume of goods that must feed our industrial plant in the United States can only be adequately and efficiently handled by a large and prosperous Merchant Marine, trained and experienced in the handling of all the cargoes of all the ports of the world.

The importance of this point cannot be emphasized too strongly. Even as long ago as the days of Thomas Jefferson this problem was recognized, for Jefferson himself sagely asserted, "The marketing of our products will be at the mercy of any nation which has possessed itself exclusively of the means of carrying them; and our policy may be influenced by those who command our commerce. As a resource for defense our navigation (shipping) will admit neither neglect nor forbearance."

Sadly enough, Jefferson's words fell on deaf ears. Our national

history is an astounding record of neglect in recognizing the importance of maritime affairs, and frantic efforts to remedy this neglect in times of national danger. During the Civil War, we were forced to destroy a goodly portion of our shipping that was being used to run the blockade of the Confederacy. Sea raiders of the Confederate States destroyed many more ships. After the Civil War, no effort was made to repair the damage, and as a consequence, the United States actually had to charter and buy foreign ships to carry our troops and supplies during the Spanish-American War, so desperately short were we in American-owned and operated ships.

Even that lesson failed to make its warning felt to the American public and its political leaders. When Theodore Roosevelt sent the Great White Fleet on its historic round-the-world cruise, the Navy Department was reduced to the ridiculous indignity of having to charter foreign-owned ships to carry the supplies and fuel for the proud new American Navy. Roosevelt warned the nation again and again, but he was ignored. When World War I broke over the borders of Europe, we found our nation in a pitifully familiar plight . . . no merchant fleet, and no trade with the rest of the world because of it. Many a fortune was lost in the frantic months that followed, when every exporter hunted desperately for bottoms to carry his goods, and all ships were tied up in the more pressing business of war.

When we entered the conflict, we were forced to lean heavily upon the aid that the British and French merchant fleets could give us. We had our plans made for a huge American merchant marine, but they remained little more than plans during the entire span of the first World War. It was not until the conflict was completely over that we began to produce ships in any quantity, and, all too late, it was realized that these had been obsolete even when they were designed as a makeshift stopgap in the desperate days of wartime shortage. In the peacetime days of the twenties and early

thirties the warbuilt ships were worse than useless; they were too expensive to run, too slow, too flimsy, poorly designed and had inadequate cargo capacity. Yet, they were the only ships we had, and we were forced to use them in world trade competition that made our merchant marine the laughing stock of the maritime nations of the world. In 1935, the United States stood last among the world maritime powers in actual tonnage figures.

In that year, 1935, the first signs of thoughtful repair work became evident. The Merchant Marine Act of 1936 resulted from a careful study of the problems and deficiencies of the American merchant marine. Various types of modern ships that would be needed were planned and shipyards were granted contracts to commence the revitalization of our merchant fleet. At the rate of about fifty ships a year, the merchant marine finally began to receive transfusions of desperately needed new equipment. Thus, when the first bombs fell on a startled Pearl Harbor, the United States was in a little better condition so far as shipping was concerned, than we had any right to expect. Still far from robust health as a powerful maritime nation, we were nevertheless on the road to recovery when war came upon us.

The tremendous shipbuilding program of the war years is well known to every American. Records set by American workers and shipyards will always stand as a monument to the productive genius of the American people, and one that we can always feel proud to recall in years to come. But that terrific effort required 17 billions of dollars because of the rush work and overtime penalties that would have been eliminated in a normal construction program that had planned for and completed our merchant fleet in peacetime years.

The lesson of the last war is clear in the minds of all of us. It was a sad and expensive lesson, but if it is heeded, it will point the way to a better way of doing things. A rush job, in an emer-

*(Continued on Page 63)*



# THE 1948 PACKING

*The packing supplies situation is straightening out, and more prewar materials are available . . . It is no longer necessary to put up with the short cuts and reduced quality of the war years.*

**T**HERE is a wide breach between the hustle of a busy packing and crating section to the calm, lush enjoyment of a mid-winter cruise to the Caribbean on a luxury liner. Yet the decision of the Cunard-White Star Line to take the Mauretania out of trans-Atlantic service beginning in January 1948 to resume its pre-war practice of offering mid-winter escape and relaxation has significance even in the realm of packing and crating.

More and more of the services and materials which were denied us during the war years are putting in their re-appearance. However, some are returning so slowly and so surreptitiously that many shipping activities are continuing unnecessarily with the short-cuts and the reduced quality of recent years.

When the question is asked what's ahead in 1948 that will induce or make for improved shipping methods, in view of the growing release of needed tools, supplies and services, the answer may well be, "It's up to the individual!" As recently as the beginning of 1947 one could say that many necessary materials were still unavailable. Now the picture is changing. Perhaps there is not yet a 100 per cent improvement, but enough needed goods are back or en route with the result that the biggest stumbling block to better packing is no longer an actual lack of supplies so much as it is the hangover of a belief in scarcities and that "What's the use; it can't be done" feeling.

The following story illustrates this danger. During the closing months of the recent war, the writer was sent to one of the com-

bat theaters where losses of supplies due to faulty packing and shipping were unusually high. It was thought a training program among the men engaged in supply work was necessary. However, it was soon obvious that each outfit had sufficient men with the necessary skill but that the high percentage of shipping failures was due to their working without essential tools and supplies.

Naturally, without strapping equipment, without scales to verify weights of contents, without lumber, without nails, the quality of even a skilled packer's output must suffer. But in this example, here was a surprising situation. Investigation soon revealed the necessary materials which the supply outfits were protesting were unavailable to them, had reached the general depots at Ports of Entry some six months before but practically none of it had been requisitioned.

What had occurred was the usual thing. A supply activity perhaps a year or more before had requisitioned their needs and were told to try later as then there were no supplies in the theater. They repeated their requests perhaps a month or two later with the same result. One by one, each outfit fell into the feeling that further asking would be futile so they simply went on improvising with used containers and salvaged materials. In the meantime, the supplies had arrived but no effort was made to check on the supply situation. Nobody knew that the period of shortages, at least for that theater, was over.

This is exactly the challenge of 1948. The Cunard-White Star line enjoys a national network of

some two or three thousand travel bureaus and agencies to acquaint the traveling public with the fact that winter cruises are again available, but similar agencies are not available to help the cause of good packing. A paper box company up to its capacity with orders, is unlikely to say to its customer, "If you press me hard enough I think I can again get enough cross-grained paper board stock to give you some decent containers to replace those flimsy chip-board boxes you had to adopt during the war."

No, if there is to be advancement towards higher standards of packing during 1948, it will not be because suppliers are once again thrusting upon buyers the better grades of paper stock; select, seasoned box lumber; the tools and machines needed to properly prepare for shipment. It will not be because those who furnish transportation, warehousing and consolidation services are once more so hungry and eager for business as to guarantee relaxed, careful handling of all freight. It will not be because the attitude of packers, stevedores, freight handlers and other labor has changed from war-induced independence to one of concern for the responsibility it has towards the cargo being handled.

If progress towards better packing is gained by any organization during 1948, it will be because someone within that organization has realized that supplies are improving and that the time has come to erase the "it-can't-be-done" mood. This point becomes increasingly evident as we move from general observation to specific matters which effect packing.

Of course, it is impossible to



# CHALLENGE



By CHARLES L. SAPERSTEIN

Packaging Consultant

ascertain exactly how each problem will be met, and naturally predictions are based on imperfect knowledge of prevailing conditions and are lacking consideration of any untoward developments which might disturb the picture. But it is deemed quite safe, in the writer's opinion to evaluate the availability of packing and packaging materials as has been done in the box adjoining. It is felt that reference to this survey will prove valuable to packers.

Scarcities will continue in some lines, notably paperboard, fibre board, box lumber, and of course, freight cars, although vast strides are being made to shorten the distance between scarcity and plenty. But in nearly all cases where materials are scarce or are of inferior quality, better grades can be procured by diligent "shopping around" and persistent inquiry. It is, as we have said, up to the packer to improve his packing. Even in plentiful years, with all the finest materials available, good packing sense must be utilized.

Whether we have better shipping or even a perfect shipping record in 1948 will depend upon each enterprise. Look around . . . the war-induced restrictions have slowly disappeared or are disappearing. There is no need for a packing activity to go through the entire year making no effort at improvement over the inadequate methods forced on all during the past few years. When this happens, one is reminded of the unobserving pedestrian who carries an opened umbrella long after the shower has passed.

## PACKING SUPPLIES AND SERVICES IN 1948

A finger-tip survey of the availability of packing and packaging materials and services in 1948. Good packing is now up to you!

### PAPERBOARD:

The scarcity of pulp will continue to restrict availability of laminated board stock well into 1948. Better grades can be had if your box manufacturer will cooperate in seeking them from the mills.

### CORRUGATED BOARD:

Heavier test boards are now available from some box manufacturers. Special size boxes (to eliminate play and waste space created through use of stock sizes) can be obtained . . . If you are firm and balk at accepting containers which quickly lose all rigidity, better offerings will be forthcoming in many cases. Waterproof or water-resisting fibre boards, especially the wartime discoveries, V-2 and V-3, will not be available to other than suppliers under government contract for some months. However, it is not too early to plan in order to be among the first to switch to this superior material for outer shipping containers.

### FIBRE BOARD:

### LINERS, WATER-AND GREASEPROOF WRAPS AND PAPER WADDING: DECORATIVE PAPERS: SHIPPING ROOM SUPPLIES:

Now generally available to those who go after them. Ample supplies in limited choice of colors.

### TIN CONTAINERS:

Tape dispensers, cutting boards, wire banding tools, stenciling equipment, etc., are now all available. Where new production is limited, slightly-used war surpluses and defense plant clean-outs are up for sale. Regular users who were forced to other materials during the war and who wish to re-convert, have just about done so 100 percent. However, additional need for tin as containers for overseas perishable merchandise, is limiting availability of special containers and decorated tins. Again, the persistent are filling their requirements for special containers.

### GLASS:

No limitations; the industry is cooperating wholeheartedly with ideas and research in behalf of the user.

### BOX LUMBER

There is a universal shortage due to the needs of the building and paper industries. Necessity to use reclaimed lumber, however, is about ended. While select, seasoned choices are still costly, the wise box maker will reject low grades, poor grains, and badly knotted lengths.

### HARDWARE:

Hinges, carriage and extension bolts, lag screws, corner plates, turnbuckles, shackles and all other hardware needs in packing are no longer scarce. If your hardware dealer cannot supply you, look elsewhere. The alert crate and case builders aren't suffering.

### FREIGHT CARS:

New production to the tune of 10,000 pieces of rolling stock a month is being approached. The shortage in freight cars is still far from eliminated, but in 1948 traffic managers will be in a position to reject an offered car because its condition presents a potential hazard to cargo.

### TRUCKING:

Over-the-road equipment has made tremendous strides in the past year. Because industry was geared for army production of vans and tractors, truckers with obsolete equipment have not had to wait so long for deliveries as in the passenger car field. Shippers should not hesitate to check the condition of equipment to which cargo is entrusted.

### LABOR:

Trained men skilled in all technical phases of cargo preparation are available. Great numbers of men (and some women also) received intensive training and handled tasks of tremendous responsibility in war plants and supply depots. Many of these individuals are now at ordinary tasks and are on the outlook for positions where their special ability can be used. In lesser assignments, industry no longer needs to engage persons with no special experience in packing with the hope they may quickly catch on.

## HIGHWAY TRANSPORTATION—(Continued from Page 22)

Our major war-created problems have been solved almost entirely. There is an adequate supply of trailers and a close-to-adequate supply of heavy vehicles, although there remains a large and unfilled demand for light trucks. The problem of trained personnel, one of our worst headaches during the war, is no longer a major difficulty. Building of terminal facilities has been going ahead steadily; tires and spare parts are readily available with few exceptions, and petroleum products so far have been plentiful.

We face a possible shortage of gasoline, although the situation here is clouded. In any event, a shortage probably will be temporary, pending completion of new plants by the petroleum industry to meet today's unprecedented demands. During the winter, some carriers may experience difficulty in their efforts to obtain enough anti-freeze, and some may find batteries are scarce. But on the whole, our equipment problems are far less bothersome than our revenue problem.

While motor carrier rates since 1939 have increased 30 percent, the general price level has gone up 81 percent, and the cost of labor—constituting 50 percent of a truck line's expenses—increased 56.5

percent from 1941 to 1946. The average cost per mile for motor truck operations increased 82 percent from 1939 through 1946, and for the period from 1941 through 1946, there were increases of 84 percent in the per-mile cost of tires and tubes, and 75 percent in the cost per mile for repairs to equipment.

The result has been a completely unsatisfactory situation from the standpoint of net earnings. During the latter war years, the operating ratio of Class I common carriers went consistently higher until in 1945 it reached 99.8, leaving only two-tenths of one cent on each dollar for net revenue, before payment of income taxes. In 1946, the situation improved somewhat and the carriers managed to get their operating ratio down to 96.4, which is better, of course, but still unsatisfactory. When the final figures for 1947 are tabulated, they are expected to show little change from the 1946 level.

The only possible solutions lie in new operating economies or in some rate increases—or in a combination of the two. In our present-day economy, with prices still climbing, the first solution is a virtual impossibility; the second choice seems to be the industry's only recourse.

tional stage in Chicago, with several more planned for 1948.

Perhaps the most rapid strides in developing a nation-wide air freight system have been made in inaugurating and improving services. Through blanket contracts with trucking companies in most of the larger cities, the airlines now provide pickup and delivery services in those areas, with applicable rates for cartage services in any desired combination. Arrangements are now being made to extend these services to off-airline points, so that in the near future there will be airline-surface freight transportation, with consolidated rates and routings, to furnish any combination of transport services between some 75,000 points in the nation.

These are significant steps in a rapidly changing pattern of national distribution, brought about principally by injection of the speed of the airplane into the picture. The tempo of the times demands speed. In certain types of businesses, their expansion virtually demands the speed of the airplane. Fruit and flower-growing make the scheduled airlines almost a part of their activities, as do other shippers of perishables. In transport of high-style apparel, the airplane is becoming almost indispensable, and a rapidly growing list of businesses find air freight the fastest, cleanest and most economical method of reaching their distribution goals.

For these reasons the future of air freight appears exceptionally bright to me, and I share the expectations of most airline executives that the transportation of cargo by air will, in a very few years, be more profitable to many of the scheduled airlines than the carriage of passengers.

## AIR TRANSPORTATION—(Continued from Page 23)

ated air carriers, at reductions amounting up to 25 percent under preceding rates. Soon after, some of the larger airlines placed in effect—with consent of the Civil Aeronautics Board, of course—individual, system-wide rate tariffs which lowered rates on these airlines to around 13 cents per ton mile, compared to the average of 20 cents made effective in the industry-wide tariff.

There are far more facilities for movement of air freight than there were a year ago. There is cargo capacity on all the 740-odd passenger planes in domestic service. The larger types of passenger-cargo planes will carry about 2.5

tons of cargo apiece, with planes the size of the DC-3 type carrying up to a ton. There are about 60 all-cargo planes in domestic service. There are available each month something more than 100,000,000 ton miles of air freight capacity on the domestic airlines. In addition to the handling facilities provided by each airline, Air Cargo, Inc., the airlines' ground organization which handles and expedites movement of air freight on a mutual basis, is establishing a series of consolidated air freight terminals at points of heavy traffic. First of these is in operation at Detroit's Willow Run Airport, and the second is near the opera-

## RAIL TRANSPORTATION

(Continued from Page 22)

will probably be less severe than those experienced in 1947.

If freight traffic continues at the expected high level, it is not likely that freight car shortages will disappear until the number of

(Continued on Page 89)



# YARD-WIDE *Material Handling*

## International Diesel Wheel Tractor Crane Solves the PROBLEM...

Stockpiling incoming material and loading outgoing finished goods... that's the primary function of the International ID-9 Diesel wheel tractor crane, owned by the New Holland Machinery Company, New Holland, Pennsylvania, in its yard-wide activities.

The mobile crane will handle 2,000 pound loads at an 18-foot radius, 5,000 pounds at a 12-foot radius and 15,000 pounds at a 5-foot radius.

And the quick-starting International tractor—full Diesel powered—offers matchless operating economy and long-lived durability. It is the answer to many of your material handling problems.

Consult your International Industrial Power Distributor for further facts and assistance in applying International tractors and power units to your material handling needs.

Industrial Power Division  
**INTERNATIONAL HARVESTER COMPANY**  
180 North Michigan Avenue Chicago 1, Illinois



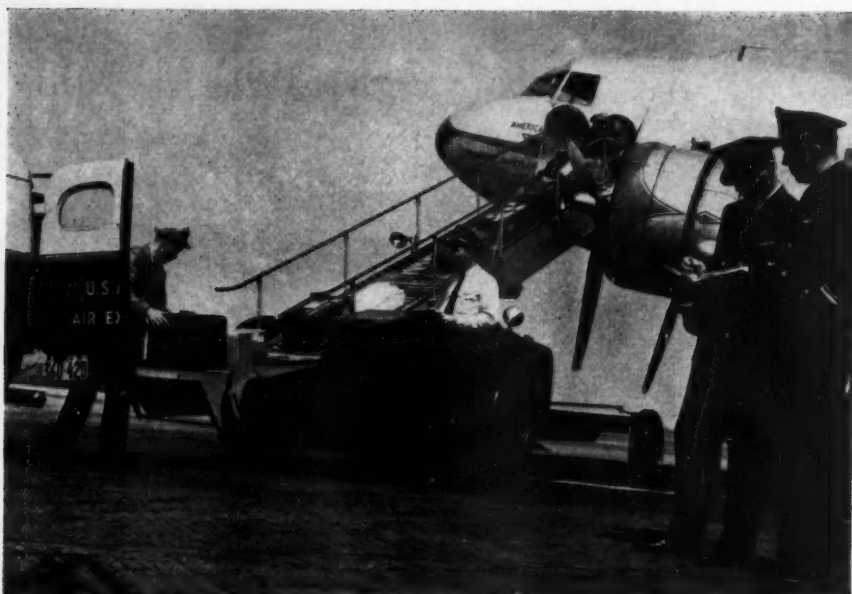
*Tune in James Melton, "Harvest of Stars" NBC every Sunday*

# INTERNATIONAL POWER

CRAWLER AND WHEEL TRACTORS • DIESEL ENGINES • POWER UNITS

JANUARY, 1948

39



# Who is the Typical Air Shipper?

- He is still in the package phase of business.
- He uses air express more than air cargo.
- He is more likely to ship than receive by air.
- He ships mostly between large centers.
- When he uses air cargo, he uses it regularly.

By JOHN H. FREDERICK  
Air Cargo Consultant

**L**AST year the Department of Commerce was responsible for interviewing shippers by air in various parts of the country.<sup>1</sup> From this study, and some of the tables contained therein, it is possible to draw a picture of the typical air cargo shipper.

This shipper is still in the package phase of the business, as he uses air express more frequently and consistently than he does any other means of air cargo transportation. He also is more likely to ship by air than he is to receive by the same means; he ships between large centers rather than between large and small centers; he uses air cargo services with considerable regularity if he uses

them at all; and his shipments are likely to weigh less than 25 lb. each.

It will be noted in Table 1 that, of the instances of use cited by shippers, 390, or 44.8 percent, used one or more of the air cargo

services only for outgoing shipments; 260, or 29.9 percent, only for incoming shipments; and 221, or 25.4 percent, for both outbound and inbound shipments. It will also be noted that air express is the predominating service. Of the strictly air freight services, the scheduled carriers and the non-scheduled are running neck and neck. It should be noted that at the time this survey was made the CAB had not as yet changed its classification which now permits the non-certificated carriers to operate on a scheduled basis under certain circumstances. In these tables, therefore, "scheduled air freight" means the services of the certificated airlines and "non-scheduled air freight" the

## "Air Cargo" from Now On

Directors of Air Cargo, Inc., have decided to drop the use of the term "air freight" as soon as possible and to concentrate on the use of the descriptive term "air cargo." The idea is to sell shippers on the idea that the scheduled airlines have just one service to offer in the shipment of property by air, and not two distinct types of services—air freight and air express—as has been the case up to now. Readers of DISTRIBUTION AGE are quite familiar with the term AIR CARGO as this service of the airlines has always been so designated in its columns.—J. H. F.

<sup>1</sup>The complete study entitled, "National Air Cargo Survey," was published as U. S. Dept. of Commerce, Industry Report, Domestic Transportation, June-July, 1947.

(Continued on Page 50)



## PALLET LOADING MAGIC

**N**EW OIL can filling and seaming equipment was recently installed by the Union Oil Co. of California. This equipment piled up cases of oil faster than could be packed, stacked and taken away. After a careful study, company officials abandoned the old method of conveyors and hand stacking. A new piece of machinery, fully automatic in operation, now takes cases of oil fed into it and lock-stacks them ten to a layer, four layers high, on a pallet, and ejects them at a rate of 15 palletized cases a minute.

Fig. 1. The accelerator conveyor feeds cases directly to the roller conveyors which transport them into the part of the machine which does the actual palletizing.

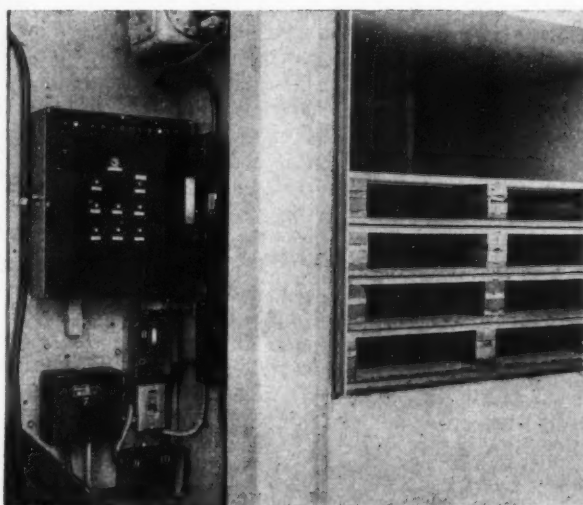
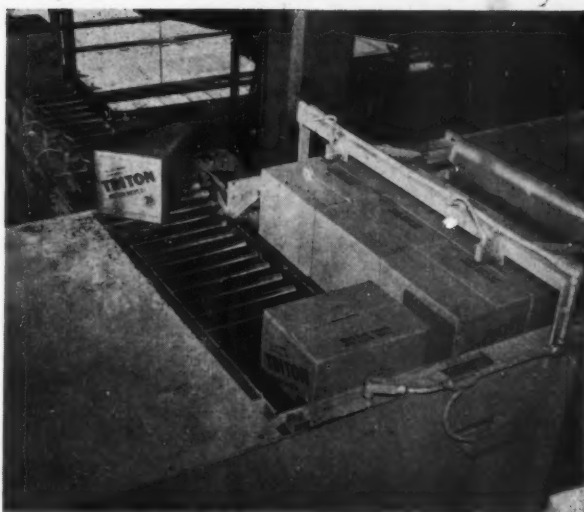


Fig. 2. As the cases pass over the accelerator conveyor (See Fig. 1.) they actuate micro-switches connected with this panel set-up which controls the operation sequence.

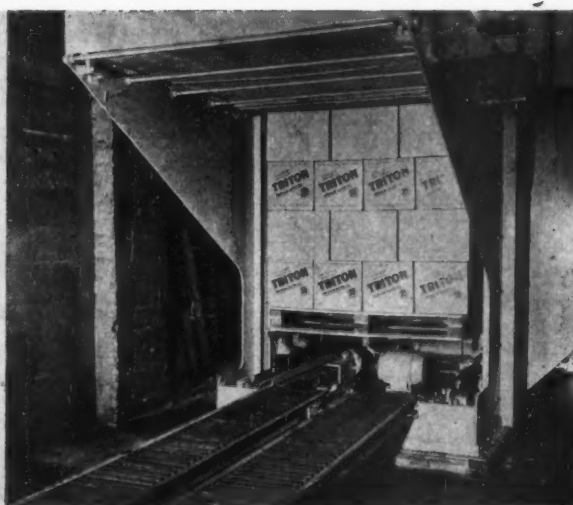


Fig. 3. Here is the pallet elevator. As each layer of ten cases is automatically received by the pallet, the elevator automatically lowers the pallet to receive the next.

Fig. 4. Loaded pallets (note lock stacking) are automatically transported from the pallet elevator for pick-up by a fork lift truck which has a tiering capacity of 104 in.

Fig. 5. In addition to stacking, fork trucks transport loaded pallets to terminals and load them into carriers for shipment into areas where the pallet pool operates.



# ARE HANDLING EQUIPMENT PRICES INFLATED?

*The absence of materials handling statistics, in the writer's opinion, makes a positive "yes" or "no" difficult, but he believes that the overall average increase, amounting to about 50 percent since 1939, is more than offset by improved operating efficiency resulting from better equipment engineering and construction.*

By MATTHEW W. POTTS  
Materials Handling Consultant

**A**RE prices in the materials handling industry inflated? It is difficult to answer this question with a positive "yes" or "no" because, in all discussions of price standards, one must take into consideration all the factors involved before coming to a conclusion. This is difficult in the mechanized handling field because much of the basic information needed to make direct comparisons is not readily accessible. Materials handling equipment covers so great a variety of types and makes that it is difficult even to arrive at an average increase; however, the writer feels that this average increase does not exceed the cost of equipment in 1939 by more than 50 percent. If this figure is correct, then we can safely say that materials handling equipment

prices are not inflated. Consequently, management should base its estimates for plant improvements on the prevailing prices and should not look for any appreciable price declines. Such decreases are unlikely, irrespective of the type of installation contemplated—whether it consist of a two-wheeled hand truck, a tractor, a fork truck, an electric hoist, an overhead bridge crane, a large gantry crane, or a complete conveyor installation. On the other hand, if wages are further increased and working hours further shortened, materials handling equipment, like all other commodities, will have to increase in price.

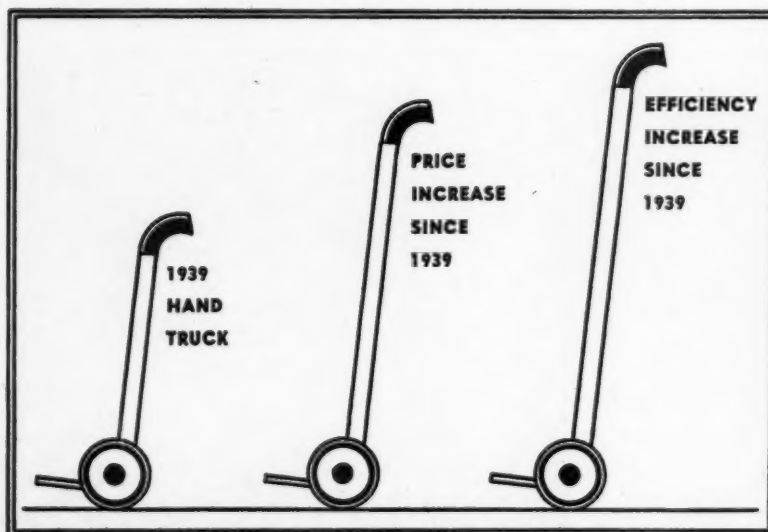
If this increase in price is necessary, the purchasing executive should weigh all of the factors that

are known, before the industry is condemned for price raising. Let us consider a few of the known factors influencing prices. Like all manufacturers, the producers of materials handling equipment have been beset by rising costs and lessened production, and they have met these added charges without resorting to substantial increases in the selling price of their equipment. In addition, all types of materials handling equipment have been materially improved in design and in construction. Take for example, the two-wheeled hand truck. These trucks formerly were made only with plain, bearing wheels mounted on steel axles. Very few, including the rubber-tired hand trucks, were equipped with anti-friction bearings. Today, two-wheeled hand trucks are equipped with rubber tired wheels, anti-friction bearings, lubrication fittings, specially designed steel, wood, aluminum or magnesium frames, foot brakes, and other accessories—all of which make for easier handling of materials. These improvements necessarily cost more money, but the price of this more modern equipment cannot be compared with the cheap construction of the past.

If manufacturers were building trucks of obsolete design, we doubtless would find that the 50 percent average increase in cost would most likely apply; a hand truck which previously cost \$7.20 now might cost \$10.80.

In the case of gravity roller conveyors, these have increased in price per foot, but there have been

(Continued on Page 79)



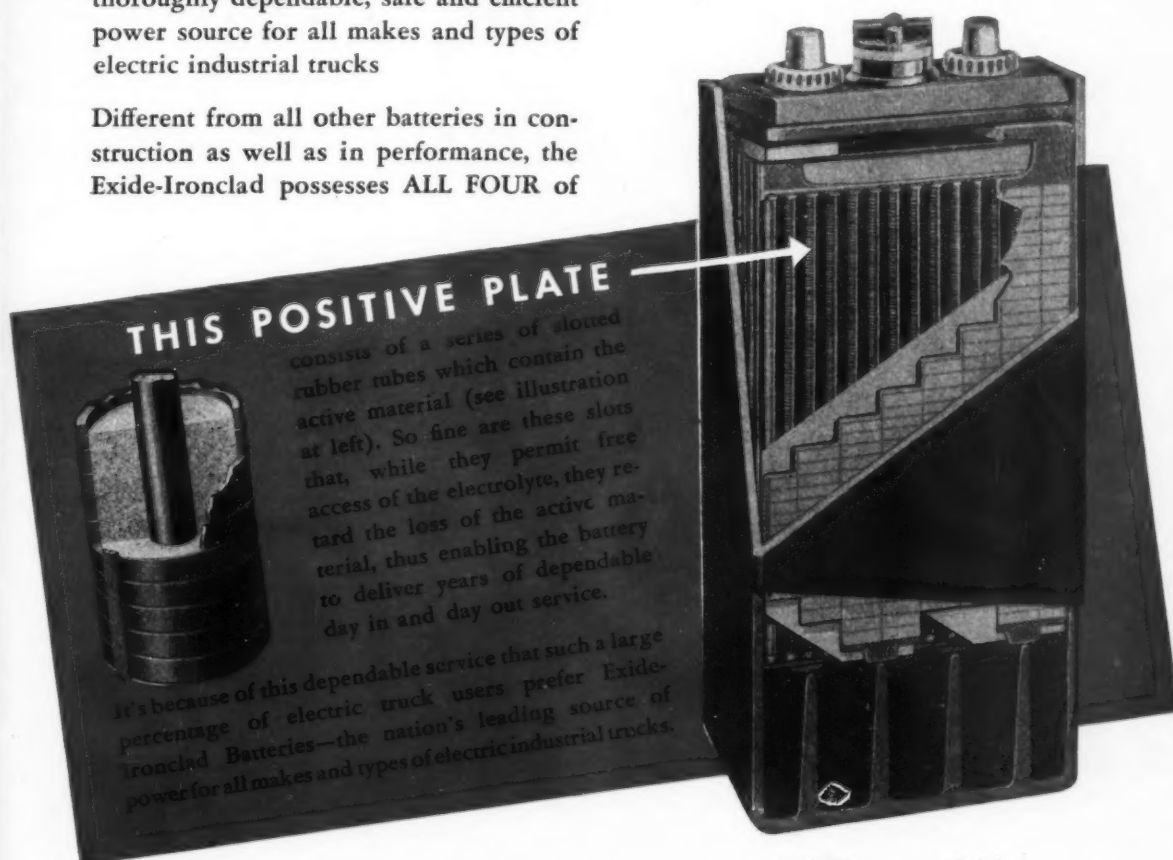
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IN a recent national survey made by a leading industrial publication, 81.1% of electric industrial truck users expressed a preference for Exide-Ironclad Batteries.

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the essential characteristics demanded of a battery for electric industrial truck service—(1) high power ability, (2) high efficiency, (3) great ruggedness, and (4) long life. These characteristics are due to the special construction of the Exide-Ironclad Battery, especially its rugged, tubular positive plate.

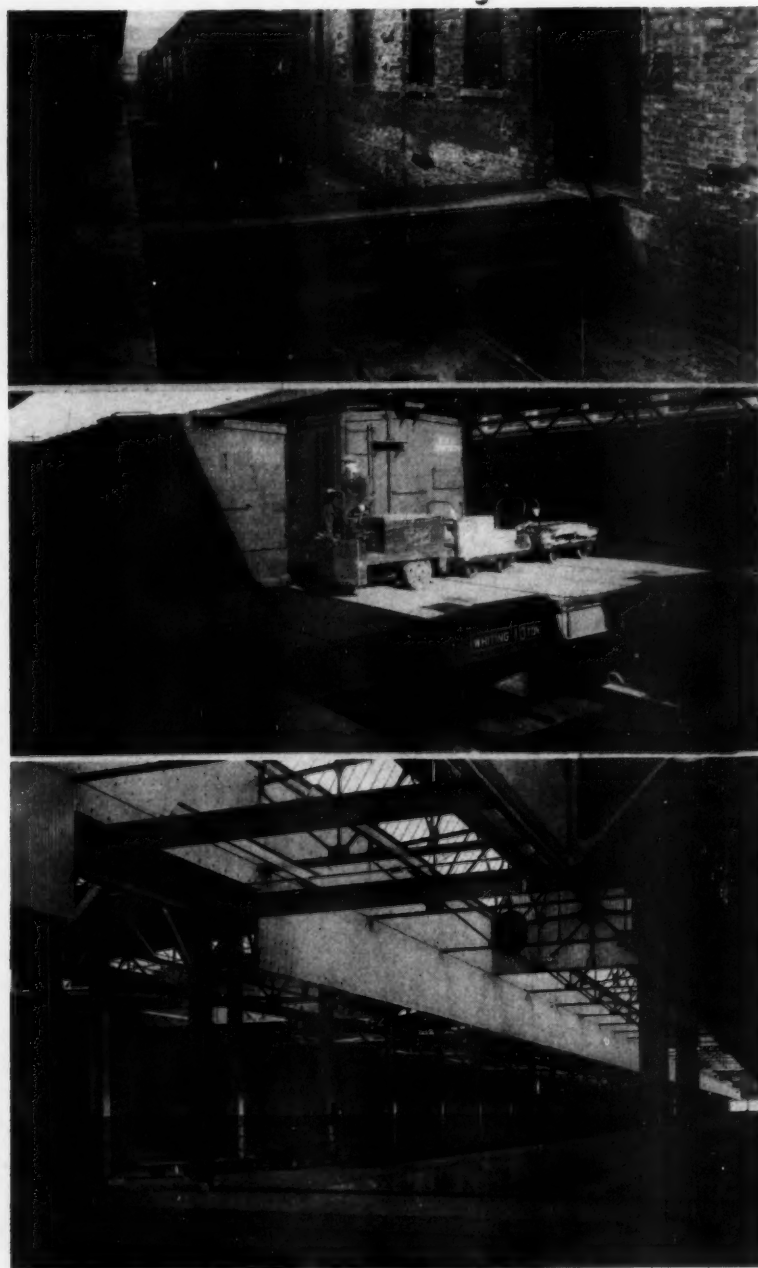


Write for further particulars and FREE copy of Exide-Ironclad Topics, which covers latest developments in material handling and shows actual case histories.

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## CROSSOVER BRIDGES

... for the modern freight terminal and warehouse



—Photographs from the Whiting Corp.

Top. Ten ton handpower crossover bridge mounted on roller bearing wheels. Deck ends and side guards can be lowered and bridge pushed under platform.

Center. Depressed type bridge in raised position, allowing transfer of materials across it. Note rails, which coincide with ground rails when lowered.

Bottom. Overhead type bridge lowered into position for use. Bridge rises at 8 ft. per minute to 22 ft. above rails, allowing room for man standing on box car.

## Choosing a Business Location

### On-the-Spot Observation Necessary

Many factors must be taken into consideration by the man deciding where to locate a new business, and much care must be taken in this study, is the opinion of Sarah C. Saunders, Div. of Small Business, Bureau of Foreign and Domestic Commerce, writing in *DOMESTIC COMMERCE*. Although it is impossible to lay down definite rules for the establishment and location of a new business, these few principles may be said to be significant:

1. The trade situation. How many business establishments are there in the town? How many people do they employ? What is their payroll? U. S. Census of Business and Rand McNally Atlas and Market Guide will give these figures.

2. Competition. Similar and dissimilar businesses in the town will compete in different ways for the consumer dollar. The income level of the town may be estimated from *SALES MANAGEMENT MAGAZINE* indices and federal income tax reports, issued by the Bureau of Internal Revenue.

3. Trading area. The town and surrounding towns must be thought of as one trading area, and can be estimated by the delivery areas of local newspapers, the boundaries of RFD mail, and bank service; also the presence of live business associations is an indication of a healthful business atmosphere and a source of information.

4. Size of community. The size of the town is of great importance, but the trend in population, up or down, may be of even greater significance. The Census of Population will give these figures.

5. Kind of people. The occupations, habits, and literacy of the inhabitants is of importance. A factory town would normally offer more of a market for work clothes than would a university town, which would naturally offer a greater opportunity for a bookstore.

The author goes on to warn that all these statistical data, valuable as they are, must be supplemented by on-the-spot observations and careful study. The banks should be consulted for information as to the easy availability of loans, and the manpower supply should be checked. Legal representation must of necessity be looked into, since any business will need it at some time. And of course resources and equipment, transportation facilities must be considered, and last, but not least, the home community, since it is where one's home must be. She concludes with these words: "Take time to go into several promising communities, study them carefully, and make a final decision only after a point-by-point balancing of all available facts."



# LIFT YOUR PROFITS with a HYSTER

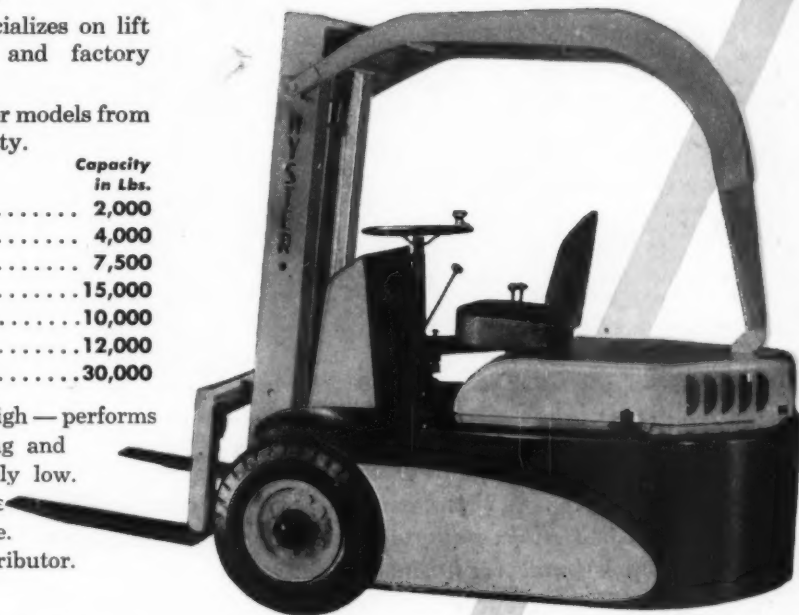
## THREE REASONS FOR BUYING A HYSTER LIFT TRUCK NOW:

1. You can get current delivery.
2. Your Hyster distributor specializes on lift truck service—has parts and factory trained mechanics.
3. Pneumatic tires on all 7 Hyster models from 2000 lbs. to 30,000 lbs. capacity.

Model	Capacity in lbs.
HYSTER "20" FORK TYPE.....	2,000
HYSTER "40" FORK TYPE.....	4,000
HYSTER "75" FORK TYPE.....	7,500
HYSTER "150" FORK TYPE.....	15,000
HYSTER KARRY KRANE.....	10,000
HYSTER "M" STRADDLE TRUCK.....	12,000
HYSTER "MH" STRADDLE TRUCK.....	30,000

Hyster moves fast—stacks high—performs surely and smoothly. Operating and maintenance costs are extremely low. Pneumatic tires save floors, are easier on loads, can go anywhere.

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capacity. Handles 7 out of 10  
materials handling jobs. Fast.  
High lift. Heavy duty car loader.

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CHICAGO, ILL.—Hyster Company

CINCINNATI, O.—Oral T. Carter & Associates

CLEVELAND, O.—Morrison Company

DALLAS, TEX.—C. H. Collier Co.

DENVER, COLO.—Paul Fitzgerald

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GRAND RAPIDS, MICH.—Bentley & Hyde

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MINNEAPOLIS, MINN.—W. S. Nott Company

MOBILE, ALA.—S & T Equipment Co., Inc.

MONTREAL, P. Q.—A. R. Williams Machy. Co., Ltd.

NEW ORLEANS, LA.—Hyster Company of Louisiana, Inc.

NEW ROCHELLE, N. Y.—Eastern Industrial Sales Co.

OTTAWA, ONT.—A. R. Williams Machy. Co., Ltd.

PHILADELPHIA, PA.—Rampell

Rapids Handling Equipment Co. of Phila., Inc.

PHOENIX, ARIZ.—Equipment Sales Company

PITTSBURGH, PA.—Equipco Sales Company

PORTLAND, ORE.—Hyster Sales Company

ST. JOHNS, N. F.—City Service Company, Ltd.

ST. LOUIS, MO.—Wharton L. Peters

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SAN FRANCISCO, CALIF.—Hyster Company

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In addition to above, Hyster Export Dealers are located in 30 foreign countries.

# IS TRAFFIC MANAGEMENT NON-PRODUCTIVE?



Ewing Galloway, New York

**Results are the only real criterion of the "productivity" of the expert traffic manager . . . There are few large shippers or receivers who, once having established traffic departments, have seen fit to dispense with them when the "going is hard" for business.**

**"I** HAVE a traffic problem in my lap. You have some experience in problems of distribution of goods; so I came to you for some advice. There is one solution you may have in mind, however, which is entirely out of the question. We cannot consider putting a permanent traffic manager on our payroll. That just doesn't fit into our budget."

This was the statement of one of my friends, who recently went to work for one of the old line firms of Los Angeles—a firm which stands high in its field, the manufacture of industrial steel products, principally for oil field use.

I asked my friend to elaborate, and he obliged. It seems that his company operates on the principle of a limited non-productive staff organization. There are a general manager, an accounting department, a purchasing department, an export department—for this

By **RAYMOND KAY**  
*Special Correspondent*

firm's output is a heavy overseas mover—a sales department, a few technicians; not much more. The rest of the operation is manufacturing labor and its supervision. Clearly, my friend stated, there is no place for a traffic manager. And yet, there is a large warehouse and branch plant in Texas and another in Portland, Oregon!

"What specifically made you come to me?" I asked.

"Well," he began, "we ran an audit on our old freight invoices. There were some small recoveries of overcharges. Naturally we don't like to see the money dribbling away, if we can pick up a few tariffs or classifications and fit the audit of these bills into our present set-up."

"I suppose the audit firm made a suggestion that you hire them

for a retainer fee," I remarked.

"Why, yes. They did. How did you know?"

The amount of the retainer fee that had been suggested was mentioned in the course of the ensuing conversation. It was about a quarter of the amount that would have been required to pay a traffic manager's salary. The question then came up: could an outside audit firm do a quarter of a company-employed traffic manager's work for this particular organization?

In the first place, we agreed that without any supervision of traffic my friend's company was going to continue to take substantial losses in its domestic transportation bill. Where, then, could economies be gained under ideal conditions?

First of all, there were loss and damage claims. No such claims

*(Continued on Page 62)*

SHALL WE SHIP BY BOAT? PLANE? TRAIN? TRUCK? WHAT ROUTE?

SHALL WE USE CARTONS? BOXES? CRATES? KNOCKDOWN? ASSEMBLED?

WHAT DOES THE LAW SAY?

SHALL WE ESTABLISH WAREHOUSES? FACTORIES? BRANCHES?  
JOBBER?

# WANTED



## Trained MEN to answer TRAFFIC Questions

**T**ODAY there is no field of business that offers more opportunities than *your own field—traffic.*

Faced with using a national transportation system that deals with \$3,000,000,000 payments to 1,000 railroads every year and increasing sums to truck operators—faced with 500,000 changing tariffs to 30,000 important shipping points—faced with almost daily new developments in scheduling shipments by boat, truck, plane and train, in containers of wood, metal, paper and fiber-board—business is constantly calling for help—*trained help.* Already you yourself know something of these problems. But suppose that today, right in your own office, it suddenly became possible for you to take over the Traffic Manager's desk.

What a break! Instantly you think of the splendid opportunity ahead, the good salary the position pays, the power and authority and respect you command.

But, even as such thoughts flash through your mind, there comes the thought of added responsibility.

Will you be able to answer the hundreds of questions that will come up on classifications, rates, tariffs, laws, and regulations?

Will you correctly answer such questions, knowing all the time that a single wrong answer may cost your firm thousands of dollars?

### You Can Fit Yourself to Answer!

On your present job you probably encounter few such problems. How sure do you feel that given such a glorious opportunity you could make good?

There's not a man in a thousand in your position who wouldn't pull some boners—yet, there's probably not more than one man in a hundred who couldn't train himself so as to come through such a test with flying colors.

How? By training himself along those lines that so many present day traffic managers have followed—the LaSalle Problem Method of Traffic Management training.

LaSalle traffic training has been formulated by experienced traffic men for men just like you. Many of today's traffic managers have studied it, gained by it, in many cases attained their present envi-

able positions because of it. Hundreds of additional men, now tops in their field, have contributed to its building and are advising so that it *stays up-to-the-minute*, practical, useful, profitable.

What is the secret of this training which is so outstanding in its reputation and accomplishments? Why has it helped so many traffic executives to advance themselves?

There is no secret.

Although the method is original with LaSalle, it's such a common-sense procedure that you'll instantly see its advantages. It consists of your solving *practical* and *actual* traffic problems over and over again—starting with the easy ones and working up by degrees to the most complex and difficult ones.

### You Train Under Experts!

All the time you work with a staff of practical traffic men—experts every one. Imagine what you could learn if your own company's Traffic Manager had the time to coach you personally as many hours a week as you cared to have him. Imagine that in addition to your own Traffic Manager you could command the help of other expert traffic managers—ask them questions, enjoy their expert advice, suggestion, and assistance. How long would it be before you, too, had mastered the intricacies of executive traffic control?

Such coaching, such question-and-answer training, such help with all the common (and most of the uncommon) traffic problems, is what, in essence, the LaSalle traffic experts offer you.

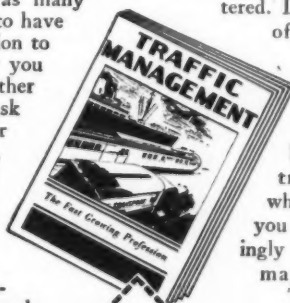
The training is based on manuals, problem sheets, and practise material which has been reviewed by 175 of the country's leading traffic executives. Constantly it changes, constantly it is improved, constantly it incorporates the newest and best practice for choosing the latest and most profitable transport facilities.

This country's vast and complicated transportation system is today growing by the minute. New opportunities are presenting themselves week in and week out for the men who are trained to grasp them.

Already you have a foothold in this great field of opportunity. Already other men just like you are preparing to scale the heights of opportunity with the aid of LaSalle's sound training. Are you any less ambitious than these other fellows?

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Don't hesitate! At least investigate the very remarkable possibilities right in the field which you have already entered. Let us send you a copy of the fascinating book pictured here. In its 48 interesting pages you'll find many facts about men who are benefiting by LaSalle traffic training. Only when you have read it can you understand what amazingly desirable opportunities may lie ahead *for you!* There is no obligation whatsoever when you send for this book. Fill in the coupon and mail it today.



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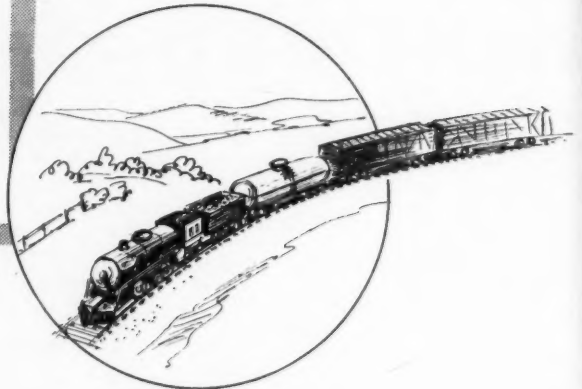
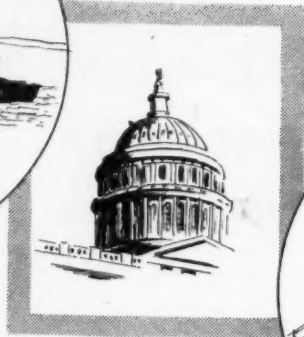
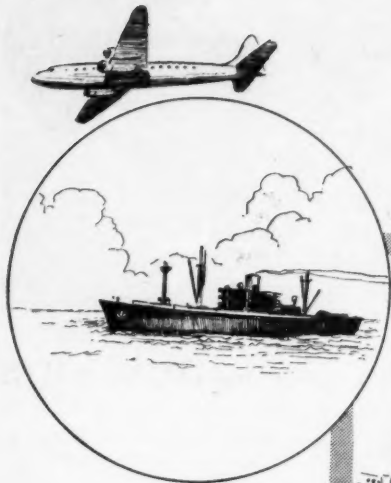
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# THE TRANSPORTATION OUTLOOK



**The 80th Congress considered a great mass of transportation matter, but enacted very few new laws . . . There is a good chance that some pending legislation will be enacted in the regular session beginning this month.**

By **ARNOLD KRUCKMAN**  
Washington Correspondent

**D**URING the past year the 80th Congress considered a great volume of transportation matters but enacted very few new laws and amended very little old legislation. The majority of the most pressing bills are still in suspension, but are assumed to have a good chance of becoming law, either at the special session, or the regular session, which in theory will begin in January. Bear in mind, however, the hope of new laws is always colored by the thought of probable opposition from the White House. Presidential approval is often withheld, sometimes because the Executive sincerely does not think the proposed law is good sense or policy, but probably more often because it comes from the Republican leadership.

When they left in July, many Congressmen on the Democratic side of the aisle were very certain they would be back by mid-November. They had apparently re-

ceived their cue from the White House. It seemed very certain there would be a special session when the tensions became more critical in October, and when the President called for reports on the state of the union from the various major departments of the government. It is reported that some of these departments, presumably the Department of National Defense, intimated that conditions might develop in the international economy—not necessarily warlike—that might be more expeditiously handled if the nation's business could be conducted under the restraints of a state of emergency. It is the business of the Congress to declare such a state of emergency. Undoubtedly the President felt that some of his burdens would be lightened if he had the Congress here to make some essential decisions. The impression here is that the Congress will be in continuous session from now until next summer, with an occasional period of holidays, such

as will come during Christmas and New Year weeks.

The most outstanding bills of interest to the distribution economy awaiting further action include the proposed law to exempt carrier agreements from anti-trust laws, when such exemption is approved by the Interstate Commerce Commission; and the bill affecting reorganization in Congress itself of some of the new procedures which have been found rather difficult. Incidentally, the elaborate establishment of experts to aid the various members of Congress, and its different committees, has not been quite such a glorious achievement as was predicted. In some cases the experts have apparently been chosen more for their political utility than for their economic or technological usefulness, as experts or as administrators. In other words, these nice juicy jobs are good coins to pay off political debts, or to stockpile political credit.

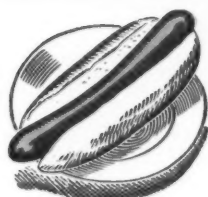
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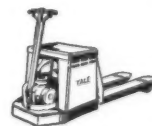
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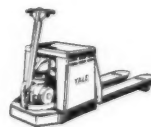
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This new Yale Load King Dormant Platform Scale is the result of more than 3 years of improving and redesigning what was to start with one of the most durable, precise instruments on the market—the Kron Scale.

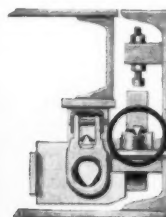
Yale Engineers, applying their knowledge gained by years of experience in designing material handling machinery, have designed a scale that has features not contained in any similar type scale. Most important of which are: all-steel construction, outboard corner support bearings (see detail at right), improved dial mechanism and an overall simplicity of construction; all of which will result in far less maintenance with a substantial increase in scale life.

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As you can see by the diagram below, it is impossible for the platform to tilt because all corner support bearings are *outside* the "live" platform area, assuring accurate weighing on any part of the full-floating platform. There can be no tipping action no matter where loads are placed on the platform.

Excessive wear on pivots and bearings is eliminated. There can be no sliding motion of the pivots. Shock loads do not destroy their accuracy. And, because the lever system is welded steel, breakage under such loads is impossible.

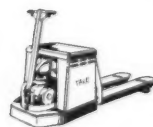


*The resultant advantages to you are:*

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# YALE



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the proposed repeal of the Crosser Act, in whole or in part. The Crosser Act materially increases railroad retirement taxes and benefits provided by the Railroad Retirement Law and the Railroad Unemployment Insurance Act. Senator Clyde Reed's S. 110, the Carrier Agreement bill, passed the Senate, but is snagged in the House. It is expected to pass. The Bulwinkle Bill, H. R. 221, was reported favorably, but the report came at the eleventh hour of the last session, when action was impossible. It is expected to pass both the House and Senate without any undue opposition. This bill, and the Reed carrier bill, however, are expected to run into difficulties when they reach the White House. The President is reported to dislike them. The Mahaffie bill, which would enable railroads in financial tangles to adjust their debt structures without resort to bankruptcy proceedings, was passed by the House during the last session, but was held up in the Senate for action in a future session. It also is certain that hearings will begin promptly in determining the fate of the proposal to repeal the Crosser Act. Hearings also are imminent on H. R. 3150, the Howell bill, which provides maternity benefits, non-occupational sickness and accidents benefits, and reduces the 3 percent tax on the Railroad Retirement Act as applied to the unemployment insurance system. The Hawkes bill, S. 670, which corresponds in the Senate to the Howell bill, was postponed for consideration because it was sharply opposed by the railroad unions and brotherhoods. They did not want the Crosser Act of 1946 changed in any way. Railroads and other transportation interests seek the changes.

Senate Joint Resolution 111, which proposes to develop an international hydro-electric project on the St. Lawrence River and a seaway from the Great Lakes to the Atlantic, was favorably reported by a subcommittee of the Senate Foreign Relations Committee. It provides a plan to make the project self-liquidating and self-supporting. It is chiefly beneficial to Canada, and in a lesser

degree, to New York State. The report recommended that the Resolution be brought before the Senate for consideration during the first week of the next regular session. A vigorous effort will be made to pass the Resolution, but there seems some doubt about affirmative action. It will apparently be one of the hotly debated issues of the Congressional year of 1948. Another subject will be the shortage of freight cars, and the distribution of the vehicles. The discussions and testimony recorded in the hearings of several Congressional committees cover hundreds of pages, and are in the process of careful study for further hearings in 1948. The supply of freight cars is still below the monthly requirements. Only in October of 1947 was the production of new freight cars slightly in excess of the requirements. Just over seven thousand new freight cars were delivered. But it is not anticipated that this average can be kept up. The steel which is increasingly needed for the European program is bound to cut down car production. The special grand jury which was charged with the task of investigating monopolistic practices in freight car building was recessed in November for an indefinite period. One of the jurors disqualified himself by admitting that he is prejudiced against "large corporations". This bias obviously made the work of the jury inadmissible for proper decisions and conclusions. It is not known how the situation can be corrected. This is the second time the jury chosen for the purpose has been recessed. The first body was dismissed early in September with the explanation that it was overworked. Senator Clyde Reed, Kansas, will try early in 1948, if not before, to assemble the freight car builders and the steel-makers in order to discover whether or not it is possible to devise a way by which the builders may obtain an adequate supply of metal despite European demands.

The House Interstate and Foreign Commerce Committee has issued its first brief report on the national inquiry into the over-

all transportation situation, particularly with regard to the questionnaire sent out to various parts of the transportation economy in order to determine whether the railroad, bus, truck, aircraft, and inland waterway services might be able to devise a program of coordination. The committee seems to be encouraged to hope that the summary of the information indicates the problems of rates, classifications, interchange of services, and various combinations may be clarified and resolved into a workable program. After hearing the report the House voted to continue the inquiry. There will be increased activity in Congress on the problem during the session which begins in January.

During October the Department of Justice filed a complaint with the ICC against 719 railroads to recover overpayments collected from the government on war-time shipments of inert explosives and ammunition. Another complaint asks that the same railroads be compelled to make restitution for overcharge on shipments of hot explosives, and for shipments of tents and tarpaulins. The proceeding is the result of an investigation by a Congressional committee which came to the conclusion that the charges were unjustified.

The railroads, on the other hand, after the award of an increase of 15½c. an hour in wages by an arbitration board in Chicago, appealed to the ICC for a 10 percent increase in freight rates. The railroads revealed that the increase, granted to one million non-operating employees, will cost the country's railroads an additional 438 million dollars each year. The appeal showed that wages have increased over 52 percent since 1941, while freight rates are only 17 percent higher. In October the commission ordered the 10 percent increase in freight rates, exempting only iron ore, coal, coke, and lignite, which were specified for particular increases. It is estimated the overall increase ordered will produce another 41 million dollars monthly in revenue

*(Continued on Page 64)*

Table 2

Area of Use of Air Cargo Service, by Types of Service  
(As Reported to the U. S. Dept. of Commerce, Feb., 1947)

Area of Use	Total Instances	Air Express	Scheduled Air Freight	Non- scheduled Air Freight	Air Cargo n.o.s.	Air Freight n.o.s.
Between large centers* . . .	163	66	25	28	22	22
Between large and small centers* . . . . .	34	11	6	12	2	2
Between small centers . . .	1	1	0	0	0	0
Between continental U. S. and points outside thereof . . . . .	124	54	17	19	23	11
Grand total, instances . . .	322	132	48	59	47	36

..(n.o.s.—Not otherwise specified)

\*In some cases, the trips were from or to airports in small towns near large centers, which towns were assumed to be suburbs and thus part of the large centers.

services of the many air cargo operators particularly active in 1946 and the early part of 1947 on a strictly irregular schedule basis.

Air express accounted for 407, or 46.7 percent, of the 871 instances of air cargo use reported by the 620 shippers interviewed in the department survey; sched-

uled air freight for 129, or 14.8 percent; non-scheduled air freight for 128, or 14.7 percent; air cargo, not otherwise specified, for 102, or 11.8 percent; and air freight, not otherwise specified, for 104, or 12.0 percent. If all instances of the use of air freight, scheduled or non-scheduled, are added together, they comprise 41.4 percent of the

Table 1

Use of Air Cargo by Type of Service  
(As Reported to the U. S. Dept.  
of Commerce, Feb., 1947)

Inbound and/or Out- bound Movement, and Type of Service	Number of Instances of Use
<b>Shippers (but not Receivers)</b>	
Air express . . . . .	173
Scheduled air freight . . . . .	65
Nonscheduled air freight . . . . .	58
Air cargo, n.o.s. . . . .	56
Air freight, n.o.s. . . . .	38
Total . . . . .	390
<b>Receivers (but not Shippers)</b>	
Air express . . . . .	134
Scheduled air freight . . . . .	27
Nonscheduled air freight . . . . .	33
Air cargo, n.o.s. . . . .	32
Air freight, n.o.s. . . . .	34
Total . . . . .	260
<b>Shippers and Receivers (both)</b>	
Air express . . . . .	100
Scheduled air freight . . . . .	37
Nonscheduled air freight . . . . .	37
Air freight, n.o.s. . . . .	32
Air cargo, n.o.s. . . . .	15
Total . . . . .	221
<b>All air cargo users reporting:</b>	
Air express . . . . .	407
Scheduled air freight . . . . .	129
Nonscheduled air freight . . . . .	128
Air cargo, n.o.s. . . . .	103
Air freight, n.o.s. . . . .	104
Grand total . . . . .	871
(n.o.s.—not otherwise specified)	

total instances reported, compared with 46.7 percent accounted for by air express.

It will be noted in Table 1 that some differences exist in the extent to which a given air cargo was used for inbound, or outbound, or inbound and outbound movement. For example, the use of air express was reported relatively more frequently in the cases of companies who only ship by air than in the case of companies who either only receive by air or both ship and receive. The differences in this respect are, however, not particularly marked and warrant no final conclusions regarding the relative use of various types of air cargo service for inbound and/or outbound movements.

The chief conclusion to be drawn from Table 2 is that air cargo movement is predominantly between large centers of popula-

(Continued on Page 71)

# SPEED



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## BRANIFF Air-CARGO

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### BRANIFF International AIRWAYS

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## CAR SHORTAGE

(Continued from Page 32)

or movement. Similar reports respecting loaded cars delayed over three days for unloading or movement are also made except in the case of company coal, which is reportable if delayed over five days. Likewise, storekeepers furnish daily telegraphic reports of cars in which company material is carried and not promptly placed for unloading. These reports from agents and storekeepers are analyzed and immediate action taken by telephone or telegram to get cars released and moved.

In addition to these special reports, arrangements have been made for assembling, in the office of the chief dispatcher or division car distributor, an extra copy of agents' yard checks (daily reports of freight cars on hand), which are forwarded each day to the bureau in Omaha, by airmail from distant points and by train mail from nearby points. These reports are checked in the bureau office and cases of excessive delay or mishandling of equipment are immediately corrected by telephone or telegraph.

From these reports special statements are compiled, listing all excessively delayed cars and mishandling of equipment, which statements, with constructive comments, are promptly mailed to various departments for immediate corrective action.

Circulars and special orders from the Assn. of American Railroads, and those issued by the management concerning car efficiency, relocation of equipment, car service rules, etc., are reissued and mailed to all concerned and followed up from time to time to insure compliance.

Inspectors carry on an educational program by personal contact, not only for the benefit of the new employees but for the returning servicemen who have been away from their jobs for some time; also for other employees who are not entirely familiar with car efficiency work, in a further effort to reduce detention of cars and get

(Continued on Page 88)

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- Moves on all flights of all Scheduled Airlines.
- Air-rail between 22,000 off-airline offices.
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# AIR EXPRESS

GETS THERE FIRST



Rates include pick-up and delivery door to door in all principal towns and cities.



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**THE SCHEDULED AIRLINES OF THE UNITED STATES**



# MORE PROFITS THROUGH CONTROLLED DISTRIBUTION

## 11. PERSONNEL AND COMPENSATION STANDARDS

***Too much emphasis on either the subjective or the objective approach to personnel and compensation problems can be disastrous . . . A workable balance between the two must be struck.***

PERSONNEL management is, in part, an attempt to resolve subjective and objective methods of dealing with people. It has been said that "markets are people" and, because it is difficult to be objective about people in direct association, it is logical that marketing men, especially those in sales, should have developed strong subjective tendencies. It requires conscious effort or intensive training to be otherwise. It is much more difficult to be objective about human beings than about machines or books of account. But businesses are run for profit and there is nothing more coldly impersonal than a profit and loss statement.

Too much emphasis on objectivity, however, can be just as ineffective, ultimately, as the other extreme. Both exaggerations are likely to end badly, but there is a healthy, practical balance toward which modern personnel management aims. Industrial relations managers know that a large proportion of labor troubles come, not from tangible (objective) matters of wages and hours, but from the imponderables which are

entirely subjective. One of the criticisms that may be justifiably aimed at old-fashioned management is the fact that it has always tended strongly toward personal attitudes. With full realization of the need for subjectivity, production management, as usual far ahead of distribution, now takes for granted the value of such wholly objective procedures as job analysis and evaluation, aptitude testing, scientific rating and engineered compensation plans. While these modern methods have become standard practice in the plant, they are still only strange and disturbing words in their own marketing departments. An example of the persistent failure of management to fathom the fundamental nature of marketing personnel requirements is seen in the case of several advertising directors who double as managers of market research.

The extrovert nature of most sales executives, especially in the higher ranks, is a distinct barrier to the development of objective standards. For that reason there is a strong tendency in many companies to reject all applicants for



By R. M. COBURN  
Marketing Consultant

sales and other marketing positions who, although strongly qualified in every other respect, have not had heavy experience in their particular industry. Except in the very few instances where specialized technical qualifications are needed, such misunderstanding of personnel specifications can only be attributed to excessively subjective attitudes, which are so easy to rationalize and so difficult to overcome.

Scientific management with its emphasis on completely objective standards, methods and controls is, perhaps, the most effective means of eliminating fundamentally unprofitable subjective attitudes and judgments. It provides an objectively designed functional organization to fulfill current and future needs. When the duties, the responsibilities and the authorities innate in each function are designated by research and analytical consideration, most of the individual personnel specifications are automatically provided. When you have specified precisely what a man must know, what he must be able to do, whom he will super-



wise and who will direct him, exactly what authority and responsibility are involved, you have practically described the man himself. Square pegs will be diverted from round holes.

In the master company organization it specifies a personnel department subject only to top management and integrated with other major functions. It will indicate standard methods to qualify applicants technically and professionally, that is, objectively. From that point department heads will take over and choose between those who have qualified. At this point judgments may be subjective, because it is the executive who has to live with the new employee. He should have the right to apply any yardstick he chooses, but in the interest of all concerned—the company, the executive himself and the applicant—he should not have the license to indulge his personal bias in the consideration of technical qualifications.

With all individual functions described in complete detail and with the concept of standards, standard practice and controls firmly indoctrinated from top to bottom, then consistent training, development and promotion of personnel become themselves standard practice. When management knows the exact job to be done, the material for training and development is already at hand. Then, when promotions and transfers are to be made, logical choices will not be dependent upon personal partiality. Judgments based on objective evidence are bound to be more correct.

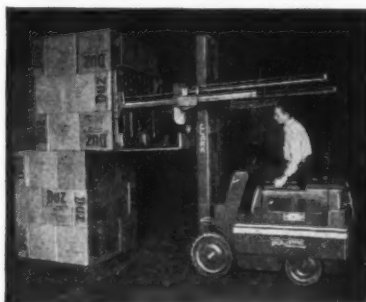
Scientific management reduces the usual heavy and wasteful turnover of rank and file employees. By objective matching of man and job, by providing standard, proven routines and objective yardsticks of performance, by the use of effective controls and by furnishing the means and incentive for improvement and promotion, it creates job security and high morale. It represents the company's best efforts to insure to each employee that he may have the opportunity to produce at his maximum and, what is more important, that his efforts and accomplish-

# MATERIAL HANDLING News

The PUL-PAC is a "push-pull" attachment which enables a Clark fork truck to lift, carry and tier many types of material assembled in unit loads based on disposable or durable sheets of corrugated paper, fiber-board or similar inexpensive material.

## PULLS THE LOAD ONTO THE LOAD-PLATE

This unique device consists of a vertical sliding rack which travels horizontally above the truck's wide load-plates, with a gripper device at its base. To pick up a load, the rack is moved forward and the gripper opens automatically to receive the projecting



1. Pulling the Load Onto the Load-plate

edge of the load-base sheet. When the rack is retracted, powerful hydraulic pressure closes the gripper firmly upon the load-base sheet; the load then is pulled onto the load-plate. See picture No. 1. Lifting, tilting and lowering are done in the usual manner.

Here is the one and only method of handling many types of unit loads that does not require conventional pallets or skids . . . practical to the Nth degree, and destined by its merits to be perpetually modern . . . offers unparalleled opportunities for big savings . . . a method made possible by Clark's revolutionary new handling tool—the PUL-PAC.



2. Pushing the Load Off at Destination

## PUSHES THE LOAD OFF AT DESTINATION

At destination, the operation is reversed. The "push" mechanism is used to hold the load over the desired area while the load-plate is removed.

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ments must be recognized. Favoritism cannot flourish in an atmosphere in which opinions and judgments are based on accurate and objective measurements, rather than on haphazard impressions. Indeed, such an environment will attract capable, sincere and ambitious personnel and just as surely discourage the other kinds.

Compensation plans will probably continue to be a source of conflict in any kind of economy. When they must be formulated in an atmosphere of bargaining—collective or otherwise—in which subjective judgments dominate, results are almost certain to be unsatisfactory to either side or both. Market prices prevail when goods are bought and sold and you take it or leave it. But progressive managements today realize that human labor is something more than a trading commodity.

There is latent in every wage situation an optimum arrangement which will allow each party exactly what he is entitled to, based on current conditions. Participants on both sides who are sincere will strive to find out what that equitable plan is, knowing that any advantages gained by duress or slick horse-trading must necessarily be temporary, unsatisfactory and, in the long run, unprofitable to everyone. Bombastic oratory, name calling, strikes and lockouts are poor substitutes for reason. They serve only to confuse further an issue which demands the best objective methods of solution. It must be admitted, on the other hand, that the amount of intricate and often conflicting detail fundamental to any wage plan is so enormous that it would rarely be possible to negotiate on a completely factual level.

But intellectual honesty on each side will demand that the area of fact be explored to the practical limit. The subterfuge of unfounded and conflicting subjective opinion is a poor substitute for a straightforward attempt at a meeting of the minds. It is true that recent abortive efforts at "fact-finding" ended in failure, but the failure was not of fact-finding itself. It was rather the unpleasant fact that neither side had the slightest confidence in the

integrity of the other.

It must be apparent, then, that if a company earnestly wishes to create and administer sound compensation plans it can do so best under the principles of scientific management with its emphasis on objective facts. Its three mechanisms will provide thus:

1. *Standards* will specify precisely what is to be accomplished in the execution of given tasks.
2. *Standard practice* will designate exactly *how* the jobs are to be done.
3. *Controls*, first, will measure how nearly the agreed standards have been reached and, second, will provide the means necessary to assure performance at standard or better.

Sound organization and scientific personnel management furnish the broad background of working conditions for productive compensation plans. The operating statement provides the only practical basis on which the monetary details may be resolved. Net income, expense, gross and net operating profit determine wage standard in the long run.

Salesmen's compensation challenges the principle of scientific management at its very foundation although it is commonly supposed to deal almost entirely with easily measured tangibles. Various combinations of commission, salary, bonus and expense have, in general, the sales dollar as the only common denominator. That criterion, so obvious and so accessible, has been in most cases the only basis on which salesmen are paid. The fact that there are, below the surface, many other factors, some tangible, some intangible, which will determine if not today's then surely tomorrow's sales, is often overlooked by harried sales managers. With inadequate staff assistance, continually under pressure to produce more and more *volume* to keep the plant operating and factory burden down, it is little wonder that they have neither time nor stomach for anything else.

Many of them operate almost on a day to day basis and the com-

pensation plans they create reflect the shallowness of rule-of-thumb management. Vergil Reed said, "The invisibility of the obvious is the source of many business problems." Ask the average sales manager what he pays his salesmen for and he will reply. "For selling goods." Yet it would be obvious to him, if he had the inclination and the time to think about it—or a good staff to think for him—that salesmen must accomplish a great deal more than sales volume if the company is to remain continuously profitable.

Inept management is content with data that show but little more than sales figures, broken down, perhaps, by products with a few random, indeterminate odds and ends. The data are usually expressed as integers; this man sold a certain dollar volume, the company sold so many of each product, and so on. These are easily recognizable tangible facts. They tell nothing but past history and at best they are water over the dam. The data which are going to determine future progress or the reverse are actually intangibles because they represent relationships and correlations between concrete facts and are usually expressed as ratios. For example, the direct sales cost of a unit of merchandise in a given territory may be 42.2c. Another would be that salesman Jones averaged \$387.67 per productive hour last period. Ratios such as these when established as standards tell in a few simple figures the story of sales department accomplishments and, by comparison with results, where it is headed. A few others are:

1. A division of sales through all channels of distribution to parallel the potentials of each.
2. A healthy ratio of sales to large and small customers. Not too heavy a percentage from too few.
3. A standard proportion of new business to old to insure growth.
4. Adherence to a standard direct sales cost for each territory, expressed both as unit costs and as a per-

centage of the sales or gross profit dollar.

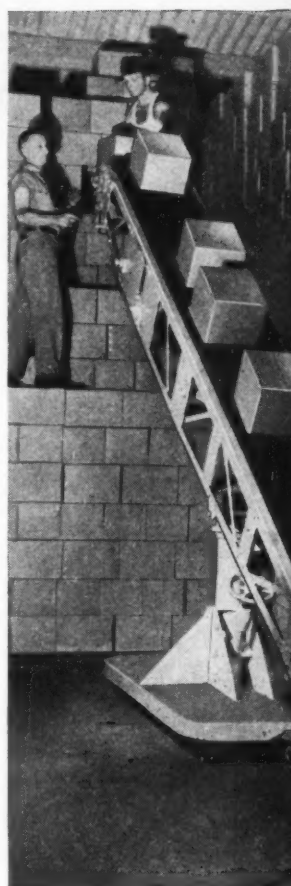
5. Proportionate sale of different products in relation to market potentials.
6. When different machine groups are used for individual products, the keeping of sales in direct ratio to the productive capacity of each group.
7. Standard number of calls and productive hours per sale.
8. Standard dollar value (volume or gross profit) per call, per sale and per productive hour.

In a previous article there were suggested a large number of sales department standards, many of which are highly useful as bases for incentives for salesmen's compensation. The efficient salesman will work toward these prerequisites for future success, which may or may not tell anything about today's efforts, if he is given the incentive to spend his time and energy on them. That is why straight commission plans, with sole emphasis on current sales, profitable or otherwise, are fundamentally unsound. Just how unsatisfactory a straight commission plan for volume only can be, is illustrated by the experience of a former client.

It was a small company, annual sales about 1.5 million dollars. Products, of good quality and competitively priced, were sold directly to wholesalers, mail order concerns and syndicates. The star salesman, with the richest territory, averaged over 20 thousand dollars per year on straight commission at rates from  $2\frac{1}{2}$  percent to 6 percent of sales. The others made between five and seven thousand dollars. All paid their own expenses. The top salesman had a national reputation as a "big man" in the industry. He hinted that he was indispensable and management, awed by his prestige, agreed with him. Analysis of his territory and activities for the previous year, revealed:

1. The potential was big enough for 4 men.
2. He had sold only 34 per-

(Continued on Page 78)



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# STANDARDIZATION for BETTER DISTRIBUTION

**Standardization, long recognized as vital to production, is now being seen as necessary in distribution for full efficiency at lowest cost . . . Packaging and materials handling offer the most fertile fields for standardization, and promise most immediate results.**

By CYRIL AINSWORTH  
Technical Director and Assistant Secretary  
American Standards Assn.

**D**ISTRIBUTION is the life line of our economy. Without the free flow of commodities, our tremendous capacity for production would mean nothing. It is to the advantage of all to keep our transportation system operating as efficiently as we know how.

As important to distribution as it is to the methods which provide mass production is the principle of standardization. Standards offer safety, efficiency, and economy. By assuring safety, management improves efficiency. By unifying design and construction, management secures speed, accuracy and interchangeability. By eliminating duplication and providing greater interchangeability, management reduces cost without sacrificing quality.

The problems peculiar to distribution and transportation are manifold. Of the wide range of difficulties which might possibly be solved by standardization, however, two seem to predominate—packaging and handling of materials. Each is important alone and both are so interrelated that they must be considered together. A standardiza-

tion program which would more adequately coordinate packaging and materials handling methods would do much to improve distribution of commodities.

It may be said that the ideal in packaging is to perfect the best container as to strength, dimensions, weight, etc., at the lowest possible price for any specific purpose. Unfortunately, over the years, many conditions—material shortages, for instance—have not made this ideal possible. That this is so can be judged largely on the extensive discussions that are daily taking place within organizations and between organizations as to ways and means of improving packaging.

Today, some type of container is needed for almost every product being manufactured. New containers in all varieties of shape and size are being designed to package almost every new product that reaches the market. Sometimes these appear to be developed chiefly from the point of view of aid to sales and little from the handling and shipping angle.

In many cases, too, packages have not been adequate to the task assigned them. Faulty con-

tainers have resulted in costly breakage and damage during handling and shipping. Approved construction of packages according to standard tests and standard performance specifications would insure that the articles would be packed, transported, and received at minimum cost with freedom from damage and with efficiency in handling. This would benefit not only the manufacturer of the goods, but also the railroad, trucking firm, shipping line or airline as the shipper, and the insurance company who is called upon to pay for damages resulting from defective packaging, as well as the receiver of the goods. The package manufacturer would have information on which to base his production and would be relieved of many of the customer complaints which he now receives and of the necessity of meeting the illegitimate competition of inferior products.

That this is so is shown by the ever increasing demand for the development of a series of standards covering the design, construction, dimensions, quality of materials, etc., of original containers, shipping containers, and



other forms of packaging all correlated to facilitate distribution and transportation. The demand, however, has not yet attained sufficient proportion to justify the initiation of a broad national program.

Directly connected with package standardization is materials handling, which presents perhaps the most logical of all places for applying standardization techniques.

Much time and money is wasted every year in the moving of materials by faulty, badly designed equipment. Tie-ups resulting from slower materials handling by this process prevent highly-paid skilled workers from attaining their maximum peak. The difference between profit and loss can often be traced directly to the manner in which materials handling is conducted.

Efficient materials handling, however, speeds up productivity. It cuts down needless rehandling of individual pieces, conserves storage space, releases more men for other jobs, and assures better inventory control of materials. The faster loading and unloading which results also reduces demurrage charges.

Tremendous effort was made during the war to improve the efficiency of materials handling. However, greater improvements are still to be made through the use of standardization techniques. One factor, for example, that has received little consideration is the provision of adequate bridge ramps for fork trucks and hand truck loading of freight cars. Various state industrial safety commissions are giving this subject more attention from the accident prevention angle, but as yet no specific national standards have been established. The determination of proper angles of ascent and descent, taking into account differences in rail car width with consequent differences in size of the gap to be bridged, makes the problem of designing a standard type of bridge ramp a difficult one. To further complicate this is the difference in distance from the top of the rail to the loading dock floor elevator and the problem of curved trackages.

(Continued on Page 70)

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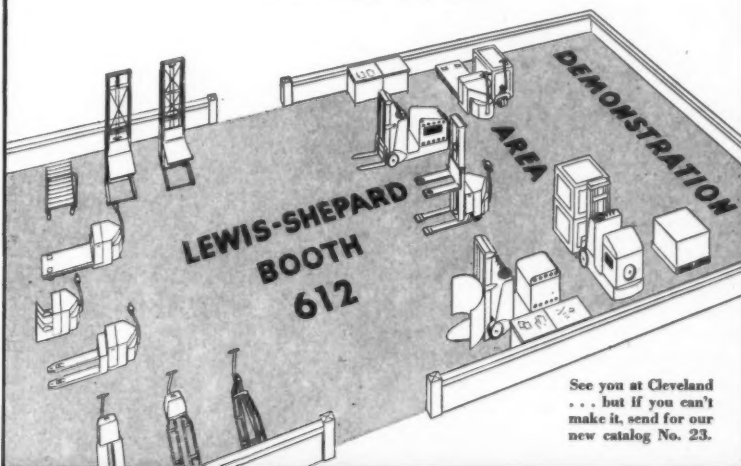
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# TALK PLUS ACTION



By HENRY G. ELWELL  
Traffic Consultant

**Jack McCormack, free lance traffic manager, precipitates a hot debate which leads to defining "distribution" and eventual agreement on the need for proper allocation of transportation costs.**

IN the conference room at the plant of the French Textile Corp. seven men had gathered. Maybe they welcomed an argument that hot, humid day. Maybe they felt like wrangling. In any event, a heated discussion soon developed. But, it brought forth a needed adjustment in cost accounting methods. It all started when Jack McCormack, free-lance traffic manager, casually remarked: "Sufficient attention is not given to the costs of transportation in the average manufacturing establishment. Accounting departments furnish segregated costs of production, sales, etc. They should provide similar information in relation to transportation costs."

Leonard Summers, the corporation's comptroller, exchanged

Author's Note: Names of persons and companies are fictitious.

glances with Fred Dixon, chief cost accountant, and angrily exclaimed: "See here, Jack, you are handling the traffic affairs of the French Textile Corp. That doesn't give you the right to interfere in our cost accounting."

McCormack stiffened. He was surprised at this sudden outburst. Carefully choosing his words, he replied: "In making that statement I had no thought of meddling. Nevertheless, the traffic department of a company is expected to produce best results in its sphere. It cannot do this unless it has the costs of transportation. Here arises a duty of the accounting department. It should supply the necessary reports to top management and to the traffic department."

"In principle I'm inclined to agree with Jack," said Walter Tripp, the treasurer. "On the

other hand, what are costs of transportation? How far should segregation be undertaken?"

Carrying on his attack, Summers shouted: "Costs of transportation include freight paid by a consignee on materials and supplies which he receives on a 'freight collect' basis; freight paid by a shipper on 'prepaid' outbound shipments; also such charges as demurrage, or storage when paid by a consignee or a shipper to a carrier. It would be useless for the accounting department to report such costs to the traffic department. That department already has the data."

"And that's your theory as to the extent of costs of transportation?" calmly inquired McCormack.

"Of course," snapped Summers. "Any other costs are allocated directly to production or to sales.

"Seems to me," Dixon interrupted, "our Jack is trying to step out of his position as traffic manager. Perhaps he is posing as an expert cost accountant."

"Nothing of the sort," McCormack countered, "but I do know from experience that costs of transportation should be controlled."

John Hankins, production manager, now broke in: "It's apparent that Summers and Dixon have one viewpoint as against another held by McCormack. To clear up something in my mind I'd like to have Jack give a general answer to Tripp's question 'what are costs of transportation?'"

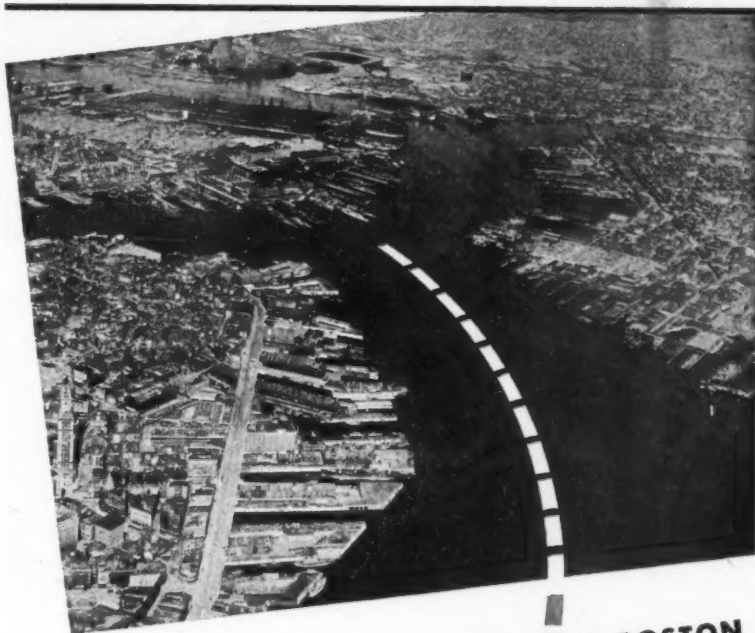
Costs of transportation are parts of the overall cost of distribution," McCormack began.

"Hold on there, Jack," exploded Harry Kedney, the sales manager, "how can that be? We distribute our products through our sales or marketing efforts. Are you implying that all costs of transportation are chargeable to sales?"

"Not at all," McCormack maintained. "Before we go any further, though, let us try to clarify certain points on which there are differences of opinion. This diversity is due to not giving proper consideration to the entire subject."

Jack pointed out that on the basis of talks with more than one executive it is evident many views exist as to the meaning of distribution. Some men think of it as relating to production. Others believe it encompasses only the movement of goods from warehouses to customers, or from factories to the customers. Marketing is confused with distribution by not a few in managerial positions.

"Actually," continued McCormack, "distribution starts with the movement of raw materials from points of origin and ends only when finished products have reached the ultimate destinations, the final users or consumers. This definition has been presented by DISTRIBUTION AGE in its editorials and articles. No one has seriously challenged that interpretation. Bear in mind that it is



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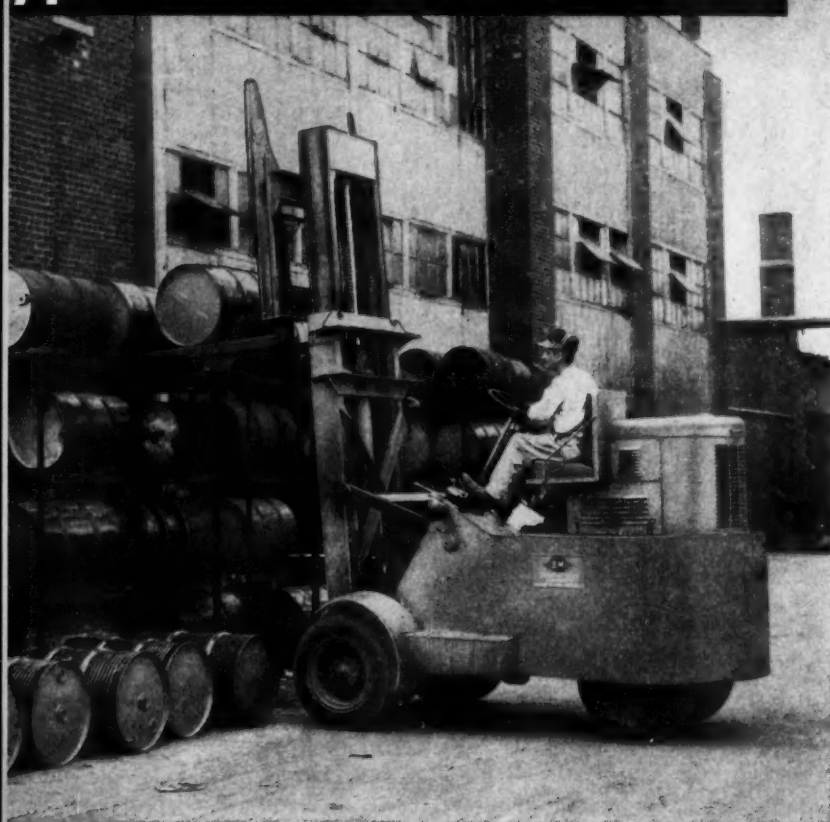
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applied in a broad sense viewing industry, commerce, and business as a whole."

"We now come to the question raised by Kedney," McCormack declared. "Distribution in connection with a shipper also has a restricted, as well as an overall, meaning. I have no intention of being high-brow, but let's get down to the roots."

Jack pointed out that the word distribution comes from the Latin "dis" (a parting from) and "tribuo" (assign), literally denoting the act of disposing by allotments; the act of dealing out to others. "So you see," stated McCormack, "that is exactly what is done when we ship to customers."

"Now let us take the transporting of materials and products by whatever agency may be used," McCormack explained. "The word transportation is made up of the Latin 'trans' (over) and 'porto' (carry). Keeping in mind the significance of distribution as related to a single company we find that its cost of distribution is a portion of its cost of transportation."

"That's all very pretty," snarled Dixon, "but you haven't given us an outline of what you contend are costs of transportation."

"Dixon, I'm wondering whether or not you are purposely ignoring the import of Jack's description," challenged Kedney. "As for me, I'm beginning to understand what he is driving at. However, now let's have his outline of the costs of transportation pertinent to this or any other manufacturing organization."

On a sheet of paper Jack wrote for all to see. *Freight inwards:* Freight paid by consignee; inbound demurrage; carrier storage charges; special transportation charges. *Materials handling inwards:* cost of unloading; cost of moving to stock room; other receiving costs after delivery to plant. *Materials handling outwards:* Crating, etc., finished goods for shipment; loading to cars and trucks; other shipping costs prior to delivery to carriers.

(Continued on Page 69)



# Export Traffic on the Mississippi

By HAVILAND F. REVES

Detroit Correspondent

Three of our major products will find their natural outlet to foreign markets through these channels: grain from the prairie states, automobiles from Detroit, and steel from Pittsburgh. All, in varying degree, are relatively expensive to ship by rail, and all justify the slightly longer time required for water shipment.

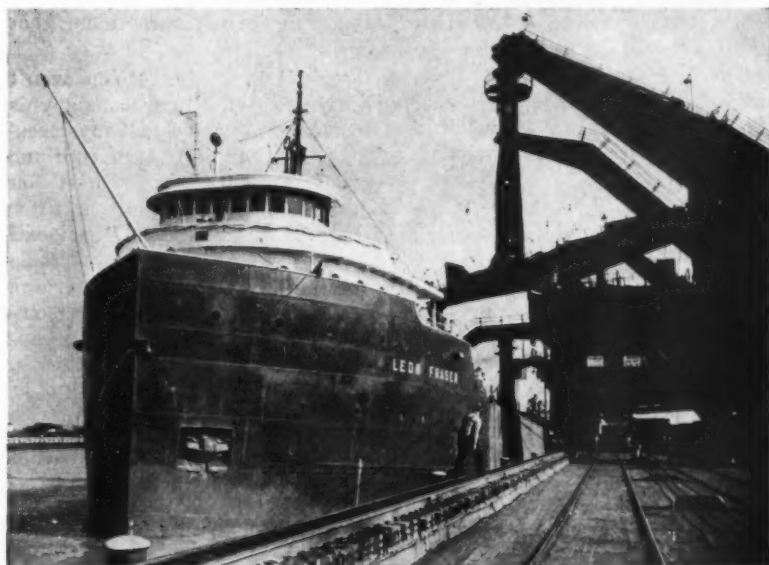
The bulk of the trade to be shipped in this manner will be manufactures rather than raw materials. Grain, of course, faces considerable competition in South America. Aside from specialized commodities of which cotton perhaps is the outstanding example our agricultural products cannot compete adequately with those grown in South America itself.

Beyond the states that will directly benefit from this trade expansion lie the provinces of Canada, with Ontario, source of most of the industrial and mineral output of the Dominion, having access to American waterways. The product of the prairie provinces, too, may be shipped by water from the customary ports at the head of Lake Superior.

Coordination of a large volume of such traffic between the Great Lakes and the Mississippi system will require the careful consideration of the most efficient type of cargo carrier to eliminate transshipment from a lakes ship to a river barge. Typical barge traffic has never been popular upon the upper lakes because navigation frequently is dangerous. Construction of a coastal channel with frequent protective harbors may develop if justified by the traffic potential. Another possibility is the revival of the century-old abandoned barge canal across lower Michigan, originally projected to cut hundreds of miles from the trip up the lakes.

If transportation costs could be reduced so that more American steel could be sold in a given South American market, and more of that country's agricultural or mineral

The Mississippi River System, with its low transportation costs, offers the Middle West a number of advantages for the development of trade with Latin America.



U. S. Steel photo

Steamer Leon Fraser, newest ore carrier of Pittsburgh Steamship Co. fleet, in process of being unloaded of 16,863 tons of iron ore.

exports brought back for processing or consumption in our inland states there would be more business for everyone. It also would mean more for rail and motor carriers as well, since nearly all such cargo would have to be shipped to and from the ports by these other carriers.

Before the war, South and Central America took about 20 percent of our exports, chiefly in manufactured goods, and furnished about 25 percent of our imports which consisted for the most part of raw materials and agricultural products.

Since prewar and present trade sets the overall pattern of probable future development, a careful analysis of that pattern should point to the real cargo potential. Voluminous statistics compiled by governmental and other agencies are available. Commodities that may find a market, imports that may be anticipated, together with shipping, handling, warehousing and other activities that may be planned to

meet future trade requirements may be generally outlined in a study of such statistics.

It is in Brazil, Argentina, Chile, Colombia and Venezuela, together with the natural near markets in Cuba and Mexico, that the bulk of our midcontinent trade may be expected to develop.

Finally, detailed analysis of available statistics will reveal those commodities which may profitably be transported to or from each of the various communities or industries using the waterway system from the nearest ports.

That the middle west is turning to foreign trade for new markets is obvious to anyone familiar with the economic position of the inland states. The Illinois Central recently sent two executives to South America to promote trade for shippers along its route. Here along the midcontinent waterway is a great opportunity for a large volume and low-cost expansion of trade.

were now being filed. Then, there were the reels and crates which went forward with the freight. They were customarily abandoned at destination with each shipment—written off as a “necessary” loss. Cable on reels, it appeared in a cursory check of the coastwise water tariff applicable to Portland, is set up on a 2,000 pound top-limit basis. I asked my friend how much the reels weighed, loaded with cable.

“They are very heavy,” he answered. “Most of them weigh somewhat over a ton.” I then pointed out the limit to him, and suggested that some provision should be made for the higher load limit without the necessity of shipping under class rates. He said that his company probably was not even using water routing to Portland. He thought they might be using rail, and in some cases motor carrier transit. I asked him if they had to move on a fast schedule. No, he thought not.

Asked who was auditing the freight invoices of the Portland and Texas plants, he replied that they come back to the home office for a check of rates, but that, of course, there was no machinery set up to handle them in Los Angeles, either. I then asked him about the packaging the firm employed, and whether anyone had attempted to improve it by lightening and strengthening containers. It seemed that this, too, had been overlooked, except in respect to offshore transportation.

I did not ask him about the liaison between his company and the carriers, about the use of passings on carload shipments, the development of alternate and best routings. I thought I knew the answer.

“Look at what we’ve turned up, already,” I said, “and we haven’t scratched the surface.”

“That,” he interrupted with a show of impatience, “is precisely why I came to you. I want you to tell me what tariffs and classifications I will need. Perhaps in a few months I can pick up enough information to plug some of the

holes—the biggest ones, anyway. I have enough to keep me going all day on my present job, of course, but if it means saving money for the company, I’ll turn part of my time to traffic work. I’m convinced that we need something along that line.”

“No,” I put in. “You aren’t convinced yet. Your company is too large for these halfway measures. If you intend to continue growing when the stiff competition of next year and the year after starts making itself felt, you will have to put a man on your traffic desk full time—a man who knows his way around in the transportation business, who can work rapidly and accurately with tariffs, and keep carriers in the wind of what new traffic you have to offer in return for reasonable rates. Until you do that, you will never enjoy the industrial spread of which your firm is capable.”

“Perhaps,” he admitted. “But I don’t know how I’m going to sell the ‘old man’ on an extra man in the office. A traffic manager is so damned non-productive!”

Well, that was about the size of it. Maybe my job of selling traffic management as an economical adjunct to this man’s industry was ineffective. Perhaps it is deeper rooted than that. Prejudice of top management is hard to isolate and deal with as it should be dealt with. If a traffic manager is non-productive in a firm the size of this one, the fault lies with the man and not with the analysis that shows the need for such an employee.

It may be that I have given the impression in this conversational report that there is no place for the public audit firm. Certainly nothing could be farther from

actuality. But the determination of the optimum point at which such services can be used effectively in place of a permanent company-employed traffic manager lies with the management of any firm. The traffic manager is, of course, useful only insofar as he is able to produce savings in cost and betterment of services greater than could be obtained in any other way. Where volumes in transit are exceedingly small, it stands to reason that no on-the-spot expert can make savings greater than his salary.

Occasionally, when I get such inquiries regarding the need of some sort of traffic management to save the money from “dribbling away,” I ordinarily urge the inquirer to go back and check with his accounting department. It is practical to check the total volume of transportation costs, where segregable, against total production and overhead costs during several years, and I recommend the checking of shipping room costs at the same time. If a “past audit” has been run over a measured period, I suggest, as a guide only, the measurement of overcharge claims collected, in their total amount, against gross transportation invoice expenditures. And yet, there are so many intangible cost-saving features provided by a well-organized traffic department, that the inquirer must be warned that the result of these investigations will give less than half a picture of the total amounts involved. Experience is the only real criterion, which can give evidence of the “productivity” of the expert traffic manager. It should be noted, however, that there are very few large shippers or receivers, who, once having established traffic departments, have seen fit to dispose of them, especially when the belt-tightening years have descended upon them. Other so-called “non-productive” entities have been jettisoned during such times, but not the traffic department, for that part of marketing which depends upon distribution is the prime safeguard of black-number accounting and probably will long so continue.

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### Transportation Department

The bill to consolidate federal transportation agencies under a Secretary of Transportation has been referred to a subcommittee headed by Sen. Capehart of Indiana, the bill’s author, for study. Plans call for the department to take over the ICC, Maritime Commission, CAB and CAA.

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## MARITIME

(Continued from Page 35)

gency, is always three times as costly as one that is planned carefully and full ahead of the time that it will be needed. We now have a huge and capable merchant marine, but we built it at a tremendous cost. It is only good business practice that we should now protect our investment. While there are still some shortages in this fleet with respect to certain types of special purpose vessels, by and large it is the finest, newest, most efficient merchant fleet in the world. We can keep this fleet at a peak of efficiency and serviceability at a comparatively moderate cost and save ourselves the staggering blow of another construction program in frantic haste in the event of another national emergency . . . but will we do it?

Private operators of merchant ships have taken long strides toward their goal of maintaining the merchant marine as the finest fleet in the world. Private lines have proceeded with a tremendous program of refurnishing and refitting wartime ships into peacetime vessels on which any American would be proud to ride as a passenger. New types of vessels are being planned to round out the already versatile fleets of individual companies. Training schools are being maintained under government supervision, to insure a steady flow of carefully trained and experienced men to fill positions in the new fleet.

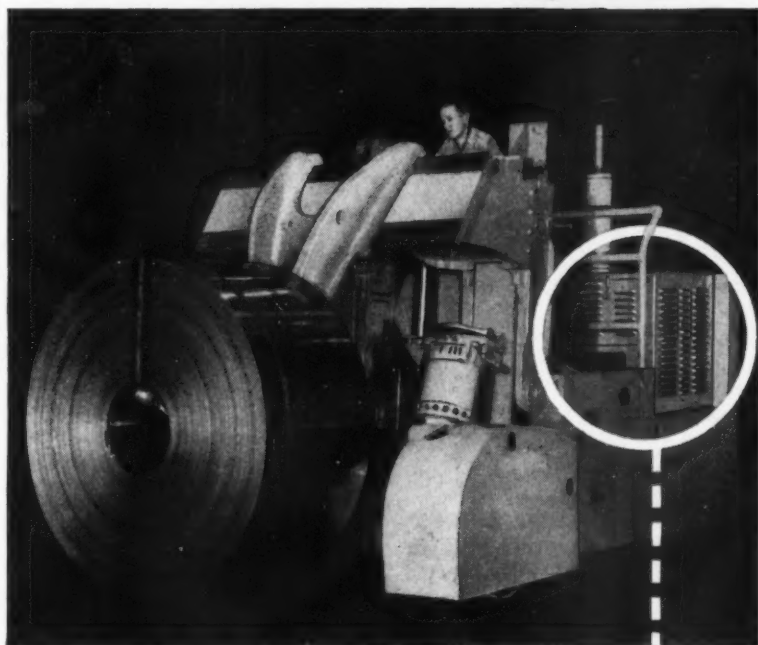
All of these points are indications of what is being done, and what is planned for the future, but it is still not enough to save our merchant marine. Either through lack of foresight or through disregard, the government program regarding the American merchant marine is pointing to a series of conditions that will virtually insure the collapse of America as a maritime power. American built ships have been sold to nations who are already our competitors for commerce on the high seas. Inequitable freight rates and high operating costs discourage the use

(Continued on Page 88)

## constant power

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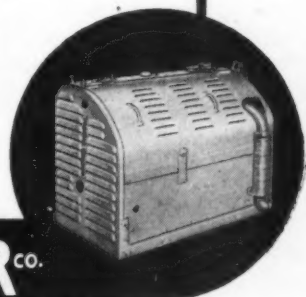


## constant power

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for the railroads. This is the second increase to become effective in less than a year. On Jan. 1, 1947, a freight rate increase of 17.6 percent went into effect. The recent 10 percent increase is temporary, and is also permitted to water carriers and freight forwarders. The general permanent increase of 26.8 percent requested by the railroads is still pending. It is anticipated that the increase asked by the railroads will eventually be granted as a permanent addition to the freight rates. Southern railroads were authorized in October to raise their coach passenger rates by 12.63 percent, and parlor car and sleeper fares by 6.06 percent.

The President vetoed S. 1252, which brought from Rep. Reed of Illinois H. R. 3237. This bill would revise the whole railroad reorganization procedure and establish standards and methods to facilitate avoidance of rail insolvencies and bankruptcies. The hearings by the House Judiciary Committee produced a new bill, a redraft with all the essential elements of S. 1252 and H. R. 3237, which was reported as H. R. 3980. It would have passed the House, but could not be cleared because the Rules Committee refused to expedite the necessary steps of consideration. The bill undoubtedly will pass in the session beginning in January. The Senate has the complementary bill, S. 249, which has not been reported out of the Senate Interstate and Foreign Commerce Committee. It awaits action in the next session.

Both the House and Senate Committees on Interstate Commerce have held hearings on the appeal of the steamship lines that they be permitted to apply for certificates to operate airlines on the same basis as other applicants—meaning, of course, the same as the lines wholly devoted to air service. The appeal also involves basically the right of railroads and bus lines and other transportation interests to operate auxiliary airlines. No action has been taken by any Congressional committee.

It is probable the decision will be delayed. More hearings are scheduled during 1948. Both committees also held hearings to inquire into methods of preventing the accidents that have occurred in unusual number to aircraft during 1947. More of these hearings are scheduled for 1948, and it is anticipated there may be some drastic police regulations as well as sharp criticism of both CAB and CAA. An end-of-the-year report by the CAA stated that there has been an increase of 1,083 airports during 1947, making the national total now available 5,418. Scheduled air carrier craft now number 926, an increase of 156 for the year. CAA figures showed a decrease in passenger traffic. The operation of scheduled and non-scheduled cargo carriers greatly increased freight transport in the air. With the definition of the non-scheduled carriers' place in the cargo economy, announced this summer by the CAB, the business of cargo carriage increased measurably, and gave a great impulse to an increase in the operations of the scheduled carriers. Clear figures are not available at this writing. Further expansion is expected when the CAB makes additional rulings in regard to air cargo rates and regulations. The airlines particularly want not less than a 10 percent boost in passenger rates.

The President's Air Policy Committee has recommended immediate relief for airlines in the form of increased rates for carrying the mails. The special Congressional committee headed by Rep. Reed, Kansas, has urged that the airmail postage rate be increased. His investigation has uncovered the fact that the present rate of 5c. per minimum unit for domestic airmail has been a steady loss to the Post Office Department, \$14,500,000 since last June alone. He makes no suggestion concerning the amount of the implied increase. The problem will unquestionably come up both in the House and Senate Committees for Post Office Affairs and in dis-

cussions about appropriations, as well as in the House Committee on Ways and Means.

During November a delegation of United States officials and Members of Congress went to Geneva, Switzerland, to participate in a world conference on civil aviation. Its chief purpose was to formulate a global treaty in order to have universal rules for the economics of commercial flight anywhere at all times. They have defined five freedoms in the air: permission to fly across any country without being obligated to stop; permission to stop for non-traffic purposes; transportation of passengers from the home country to another country; transportation of passengers from another country home to the operator's country; and transportation of passengers from another country to a third country. It is doubtful these agreements can be achieved under present international tensions.

This month, from the 7th to the 30th, the American University in Washington is conducting its second annual Air Transportation Institute. The program includes basic principles of transportation; air transportation, airports, airways, airline operation and traffic; air transportation and government; international air transportation; and community and air transportation. The faculty includes Brig.-Gen. Alvin Lueddecke; Robert Ramspeck; Theodore P. Wright; Jennings Randolph; James Landis, and others.

The House Committee on Merchant Marine and Fisheries made a report late in 1947 sharply criticizing the U. S. Maritime Commission and the War Shipping Administration. The chief complaint was aimed at the accounting practices of these agencies, as well as allied practices. They were charged with illegal proceedings under the laws as defined by Congress. The Maritime Commission withdrew from dry cargo operations coastwise and intercoastal, but was authorized by Congress to continue government vessels operations until March 1, 1948. The sudden



death of Rep. Fred Bradley, Michigan, brought the chairmanship of the House Merchant Marine and Fisheries Committee to Rep. Alvin F. Weichel, Ohio. Dr. J. C. Nelson, who was chief of the Transportation Division of the Bureau of Foreign and Domestic Commerce, Department of Commerce, left the service in September, and returned to his post as professor of transportation in the University of Washington at Seattle. He was succeeded by Dr. Paul M. Zeis, who has been in the government for the past three years, and who came from the University of Akron. He is the author of a textbook, *American Shipping Policy*. The Office of Defense Transportation was continued by Congressional action until March, 1948, the necessary appropriations being provided despite the fact that the agency was supposed to be liquidated last July. There is little doubt it will be continued in existence after March 1, 1948.

The Corps of Engineers, civil functions, was supplied by Congress with \$116,718,700 for expenditure on rivers and harbors improvement for the fiscal year June 30, 1947, to July 1, 1948. Europe wants 12 million tons of crude and semi-finished steel in the next four years. It wants 120 million tons of coal by 1950, also ten times as much industrial equipment of all kinds as it has been getting. The European demand calls for one-half of our capacity in the production of freight cars. It requires great quantities of farm machinery, 20 percent more lumber than it has been getting from us, and from 10 to 31 million more tons of petroleum. It asks for more soda ash, caustic soda and carbon black, and huge quantities of rayon fabric and fibre, together with jute bags and burlap. These enormous squeezes on our economy are the subjects which will be hotly discussed in Congress. The experts apparently do not quite know the answers. It is from this condition of shortages and uncertainties that the imperative demand for a state of emergency, and subsequent economic and social controls, is expected to spring.



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# MECHANIZED HANDLING



Mechanized handling has greatly reduced accidents, say Acme Steel Co. officials.

By RANDALL R. HOWARD  
*Special Correspondent*

vising department accident records are posted on large blackboards.

The newest addition to the Riverdale works is the No. 24 one-story building which covers a total of 7½ acres, and here may be seen some of Acme's latest developments in materials handling. These include new loading platforms with hydraulically controlled outer aprons adjustable to the floors of highway motor trucks being loaded or unloaded by fork trucks. In its two Chicago plants Acme is using about 100 fork trucks. The recent company trend has been toward the use of larger 10-ton trucks, as contrasted with the 3 and 5-ton units formerly used. During the war period about one-fourth of all company fork truck drivers were women, but now there are only three or four.

Use of fork trucks naturally has changed the Acme safety program. Company officials report that, in general, mechanized handling has greatly reduced the number of accidents to workers. Formerly, there was much two-man manual lifting of weights of 200 to 250 lbs. But today a worker seldom does any heavy lifting; and when such lifting is required, the maximum weight averages only 50 to 60 lbs. per man. Hence the hazard of back strain and hernia and minor foot and hand injuries has been greatly reduced.

The preferred age for fork truck operators is from 20 to 30 years. Competency is ensured by requiring all new operators to "pass through the mill" of selection and training. Any new employee or any employee seeking a job transfer, is first referred by the personnel department to the company doctor for pertinent

**A** PERSON visiting either of the two large production plants of the Acme Steel Co., Chicago, is immediately impressed by the general "safety atmosphere" in which the company's 4,000 employees work. The splendid employee accident record achieved by Acme during recent years is closely related to improvements in the company's materials handling methods.

The company's accident-control program is being capably administered—not only by the direct activities of the safety department staff, but through placing primary accident-control responsibility on various departmental supervisors and foremen. In other words, Acme assumes that safe working conditions, safe tools, and safe working habits are an essential part of every plant job.

As to the general "safety atmosphere," all Acme workers who approach the newer and larger Riverdale plant are reminded of the hazards offered by the two railroad tracks they must cross. A large sign over the outside gate announces: "Tracks Both Sides Of Gate." And where workers leaving the plant approach this gate, the other side of the sign cautions: "Always Be Careful. Tracks Both Sides Of Gate." Also, at one side from the entrance gate, there is another large sign which states: "Upon the Physically Fit Depends Largely The Success Of America." A little farther inside the Riverdale plant, at a sharp curve along the roadway, all who enter are admonished: "Be Careful. The Life You Save May Be Your Own." Within the buildings, in the headquarters of each super-

DISTRIBUTION AGE

# G R E D U C E S   A C C I D E N T S

*Increased use of materials handling devices at Acme Steel's Chicago plants has not only effected important time and cost savings, but has greatly reduced the number of accidents to workers . . . Mr. Howard discusses the operation of the company's safety program.*

physical tests. Previous familiarity with automobile or highway truck driving is considered desirable by the safety department. Eyesight is especially important. All new or transferred employes must report to the safety department for a short 10 to 15 minute personalized safety talk. The worker also is presented with a copy of the Acme 16-page booklet on "General Plant Safety Rules." This booklet emphasizes the fact that safe working conditions and habits are considered a basic essential of all company jobs, and points out direct responsibility for the maintenance of these conditions rests with the various supervisors and foremen.

The Acme booklet of safety rules has detailed suggestions on such topics as ladders, clothing, hand tools, rules for overhead crane operations, standard crane signals, etc. Also, there are two pages which include the following

19 rules for electric and gasoline truck operators:

1. You are charged with the proper care of equipment entrusted to you and you must answer for any damage done to it.
2. Speeding or reckless and careless driving will not be permitted under any circumstances.
3. Passengers must not be carried at any time.
4. You must never enter or leave any door in any building, enter a main aisle or roadway in or between any buildings or round a blind corner at full speed. Slow down and blow your horn.
5. When approaching anyone from the rear sound your horn at a distance not less than ten feet and have the vehicle under control so you can make an emergency stop.

6. At the start of each shift inspect your brakes, steering mechanism and horn to make sure they are in good working order.

7. Trucks must not be operated two abreast, and you must not pass another one unless it is standing still or going in the opposite direction. In either case be sure you have enough clearance.

8. Trucks must always be operated with the load in front of the operator. Backing is permitted only in turning around or getting out of a "hole." Trailer trucks should be pulled wherever possible.

9. Never drive high-lift trucks with lifts raised. Keep forks as close to floor as possible.

10. Unsafe loads: a. Top-heavy. b. Projecting or sticking out. c. Not held securely.

Woman fork lift operator at Chicago plant. Operators must be specially selected and trained.



Cliff Waddell, Director of Safety, demonstrates value of safety shoes to Riverdale Safety Committee.



d. Unequally distributed. e. Defective trailer truck. f. overload.

11. Refuse to take an unsafe load until it is loaded correctly.

12. Bring your truck to a full stop before crossing a concrete roadway.

13. Do not back out from under a load without looking behind you.

14. When you leave your truck, be sure the hand control is in neutral position. Never leave a truck with the hand control in a forward or reverse position.

15. Be very careful at lunch time and at a time when crews are changing shifts; many employees will be in the aiseways.

16. Drive slowly on slippery floors or on icy pavements; your brakes may not stop heavy loads.

17. Find out the carrying capacity of your truck; then don't abuse it.

18. Do not leave empty or loaded trucks, trailer or skids, or pile material in, fire lanes, passageways or in front of fire, watch and electrical equipment.

19. No one shall operate an electric truck other than those authorized by the trucking foremen.

Since the Acme safety program must be administered chiefly by the supervisors and foremen, the company makes special efforts to keep them technically up-to-date and fully alerted on practical safety operating methods. This is accomplished through foremen conference meetings which are held semi-monthly for the benefit of new foremen and as refresher courses for the old foremen. These foremen courses give much attention to problems of plant accident control. This includes talks and practical safety equipment demonstrations by the several staff members of the safety department.

One of the chief means by which Acme foremen are able to pass practical safety instructions on

to their men is through the plant employe safety committee. This committee consists of 18 appointed members, each serving for a period of six months only, hence the membership is in constant change.

Another manner in which safety is being promoted in the Acme plants is through the Acme Steel employes suggestion plan. Suggestions are passed on by the suggestions plan committee, and cash awards are made for all that are accepted.

Another method of bringing foremen into close contact with their men and thereby furthering the safety program is through the Acme occupation rating system. This provides that every six months each supervisor must work out for each of his workers a "merit and ability evaluation," based on observations made by himself or his foreman and includ-

ing personal interviews with workers.

In each of the chart sections the foreman will rate the worker with a scale mark variable through five units from the lowest possible grade, through a central average, and on up to the possible highest mark. As an example, especially pertinent to this article, are the following guiding descriptions which apply to the five possible graduations of a worker in "Safety."

1. Careless. Causes many accidents. Destructive attitude toward safety program. Often disregards safety rules and practices. Neglects to report minor injuries.

2. Frequently causes accidents. Disregards safety rules and practices. Engages in "horseplay." Follows safety program disinterestedly. Seldom reports minor injuries.

3. Occasionally causes accidents. Numerous minor injuries. Goes along on most safety rules. Seldom submits any safety first suggestions. Reports most minor injuries.

4. Careful. Seldom has or causes accidents. Offers a few suggestions. Observes safety rules. Few minor injuries, but reports all such injuries.

5. Excellent safety record. Never causes accidents. Extremely helpful to co-workers. Observes all safety rules and contributes valuable suggestions. Sets good safety example.

When an injury occurs to an Acme worker—and no matter how trivial the injury may seem to him—he is directed to report immediately to first aid. The first aid injury slip which he receives routes him back to his foreman. His foreman then is directed to report the injury to the safety department. The foreman's report designates: Injured employe. Time and place of injury. Cause. Remedy (and the blank states: "There is a remedy. What is yours in this case? What can be—will be—has been—done to prevent a similar injury?") Witnesses. Signature.

### Coming Events

Jan. 12-16—Second National Materials Handling Exposition, Cleveland Auditorium, Cleveland.

Jan. 12-14—7th Annual Meeting, Truck-Trailer Mfrs. Assn., Edgewater Gulf Hotel, Edgewater Park, Miss.

Jan. 12-16—Annual Meeting, Society of Automotive Engineers, Book-Cadillac Hotel, Detroit.

Jan. 12-16—37th Annual Convention, National Retail Dry Goods Assn., Hotel Pennsylvania, New York.

Jan. 15-16—Third annual technical session and exhibit, low-pressure industries division, Society of the Plastics Industry, Edgewater Beach Hotel, Chicago.

Jan. 25-30—Annual Convention, National Furniture Warehousemen's Assn., Biltmore Hotel, Palm Beach, Fla.

Jan. 26-29—Fifth All-Industry Refrigeration and Air Conditioning Exposition, sponsored by Refrigeration Equipment Manufacturers' Assn., Cleveland Public Auditorium, Cleveland, Ohio.

Jan. 29-30—Annual meeting, The Wire-bound Box Mfrs. Assn., Hollywood Roosevelt Hotel, Hollywood, Cal.

Feb. 7-9—Annual Meeting, The Refrigeration Research Foundation, Chalfonte-Haddon Hall, Atlantic City, N. J.

Feb. 9-12—57th Annual Meeting, American Warehousemen's Assn., Chalfonte-Haddon Hall, Atlantic City, N. J.

Mar. 11-12—National Marketing Conference, sponsored by The Domestic Distribution Department of the Chamber of Commerce of the United States, Hotel Jefferson, St. Louis, Mo.

Apr. 5-8—16th Annual Convention, Mayflower Warehousemen's Assn., Traymore Hotel, Atlantic City, N. J.



**Freight outwards:** Freight charges paid by shipper; outbound demurrage; warehousing and storing of finished products; special transportation charges. "The total of these items, under the four sub-headings, make up the cost of transportation of a manufacturer," McCormack concluded.

Dixon snorted in disdain, and loudly cried: "A great deal of additional work would be piled on the accounting department if we used all of those subdivisions. And if we did? Of what advantage would it be?"

"I'll not deny that some extra operations would fall on the accounting department," smiled McCormack, "but unless it is done how can the traffic department determine where transportation costs may be reduced? How can top management see where losses are occurring?"

"Even if we followed your notion," Dixon insisted, "most of the figures eventually would be charged to production and sales as we are already doing."

"That's right," added Tripp, "so what would be gained?"

"Possibly we have a lot to gain," Hankins argued. "Here we are at present working along on an accounting system where my production department has nothing on monthly costs relative to the particulars listed by Jack. If he and I had periodic cost of transportation factors we might mark out a course to save money for the company. A break-down of production costs has been valuable. Why not in the case of transportation costs?"

"Yes, and my sales department is in the same boat," Kedney asserted. "Our current practice does not make provision for details concerning costs of transportation." Turning to Summers and Dixon he asked: "Is it impossible for you fellows to contrive something whereby monthly costs of transportation can be studied?"

"Of course we can set up a record," Summers admitted as Dixon nodded in agreement, "but

it would be a waste of time for all of us."

"I don't agree with you as to its being a time waster," Tripp asserted. "If we are to have facts, every part of transportation cost should be separated no matter what we finally may do in assigning the various segments to major accounts. I think we should be in a proper position to correctly analyze our costs."

"Dixon and I do not wish to avoid doing anything of value to the company," Summers conceded, "and it might be worth trying to devise a scheme along the line as recommended. Yet it seems to me that Jack has written down a lot of individual entries."

"Well," responded McCormack, "all I am suggesting is that the accounting department give us costs of transportation. If the list I endorse is too cumbersome then get up another. On the other hand, Len, be sure you can improve on it. That one was prepared by a certified cost accountant. It seems to fit the ordinary requirements."

As he studied the schedule Summers  
(Continued on Page 85)

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There is also much value in the standardization and simplification of such phases of materials handling equipment as wheel and caster sizes, bearings for wheels, lift truck capacities, hoists, portable elevators, skid platforms, and heights and stabilities of industrial trucks. A word might be said here regarding the need for standardization of methods of controlling industrial trucks. Not only do these methods differ between plants, but even within one plant, and the ways trucks are maneuvered vary from model to model.

Out of the war has come one development which shows great promise of revolutionizing the entire materials handling technique. That development is the pallet—a device which allows multiple small units to be combined and handled as one large unit.

**Pallets**—and their partners, fork trucks—are only a part of the vast machinery that moves produce from manufacturer to consumer. Yet their importance to distribution is well recognized today, for any operation which will eliminate several motions in the handling of products will provide a quicker, more economical way of performing a job.

The pallet theory in its ultimate conception calls for the design of shipping containers and pallet sizes to dimensions which will fit freight cars or trucks rather than designing them to hold a certain amount of produce.

To arrive at national standard sizes for pallets would offer tremendous possibilities. Not only would these standard pallets allow for utilization of the maximum amount of space available, but they could cut costs even more by following completely through on the distribution of commodities from the manufacturer's production line to the wholesaler's shipping depot and the ultimate consumer's receiving station.

Another economy would come from the use of pallet pools. Both shipper and consignee could avail

themselves of the great savings to be made through interplant unit load shipping without the complications of returning freight rates, large pallet inventories, and disagreements over ownership of pallets. Several pallet pools are operating quite successfully within specialized industries.

The National Assn. of Pallet Manufacturers, newly-organized, has undertaken as its initial project a program of standardization and simplification of pallets.

In addition, the Commodity Standards Division of the National Bureau of Standards recently recommended two selected sizes for pallets for the handling of groceries and packaged merchandise—40 x 32 in., and 48 x 40 in. This standardization program was initiated at the request of the wholesale grocery industry.

In a field as complex as distribution, where railroad companies, warehousemen, truckers, paper manufacturers, machinery makers, insurance companies, customers including the army and navy, to mention a few, all have an individual interest to uphold, there is an obvious need for a national program of standardization—one that would bring all groups together to consider any one phase of the subject. To provide machinery for the correlation of such interests was the basic purpose of the organization of the American Standards Assn.

Composed of 100 national groups and about 2000 company members, the association has set up certain rigid requirements which must be met before the designation "American Standard" is approved. These stipulations assure that all national groups which have a substantial interest in the standard—manufacturers, distributors, consumers and government agencies—have had an opportunity to take part in the development of the standard and have reached agreement on it. The methods for arriving at standards are flexible and can be adjusted to meet any individual situation, but the main principles

are to be found in all of these methods.

A great deal of standardization work has been done already through the association for the transportation field. To name a few standards—traffic signals, signs, and road markings have been adopted through ASA procedure. Specifications for safety glass has been approved by the same method for use in buses, trucks and passenger cars and is now being specified by all regulatory bodies including the ICC in rules governing construction and operation of motor vehicles.

The accomplishments of the organization are too many to enumerate here. Any examination of its long and valuable record will show that the ASA has continued to reflect the growth of the standardization principle so essential to mass production in industry and to the national economy generally.

Because standardization is such a dynamic principle, the work of the ASA is never done. While its contributions to the improved efficiency of distribution and transportation are substantial, there is still much to do. Committees are now at work on new projects or are busy investigating requests to initiate other projects in this field. Among the latter are proposals to study the packaging of frozen foods, the sizes of standard pallets for loading goods on ships from docks, and that of the whole vast field of materials handling equipment.

There is still much to be done in safety. Improper materials handling is said to be responsible for one out of every four worker injuries today. Accidents interrupt operations and increase costs. Safety in materials handling is as important as any other phase of the problem.

Where distribution is of such importance to our economy, any techniques which will simplify its operation should be most welcome. Standardization has a definite place in achieving this end. Much has already been done and much is still to be done in improving our distributive channels.

# THE TYPICAL AIR SHIPPER—(Continued from Page 50)

Table 3

Frequency of Use of Air Cargo Service, by Industry Group (As Reported to the U. S. Dept. of Commerce, Feb., 1947)

Frequency of Use and Industry Group	Number of Instances Used
<b>Emergency or Very Limited Use:</b>	
Department stores	28
Other retail trade	17
Wholesale trade	25
Retail and wholesale trade	3
Mfg.—Printing & Pub.	5
Mfg.—Apparel	4
Mfg.—Auto. & Aircraft	7
Mfg.—Other	98
Agriculture	2
Other industries	23
<b>Total</b>	<b>212</b>
<b>Occasional Use:</b>	
Department stores	37
Other retail trade	47
Wholesale trade	30
Retail & wholesale trade	5
Mfg.—Printing & Pub.	6
Mfg.—Apparel	10
Mfg.—Auto. & Aircraft	4
Mfg.—Other	99
Agriculture	22
Other industries	49
<b>Total</b>	<b>289</b>

<b>Frequent or Regular Use:</b>	
Department stores	33
Other retail trade	35
Wholesale trade	49
Retail & wholesale trade	7
Mfg.—Printing & Pub.	16
Mfg.—Apparel	2
Mfg.—Auto & Aircraft	23
Mfg.—Other	111
Agriculture	8
Other industries	53
<b>Total</b>	<b>337</b>
<b>Total of above three groups:</b>	
Department stores	98
Other retail trade	99
Wholesale trade	104
Retail & wholesale trade	15
Mfg.—Printing & Pub.	27
Mfg.—Apparel	16
Mfg.—Auto & Aircraft	34
Mfg.—Other	308
Agriculture	12
Other industries	125
<b>Grand total</b>	<b>838</b>

tion as relatively few instances were cited of movement between large and small centers, and but a single case of movement between small centers. In this connection it must be remembered that the survey on which these tables are based was made in February, 1947, by which time the airlines

had not been able to make their cooperative arrangements with motor carriers permitting of direct shipments to many small points. Also we must bear in mind the fact that combined passenger and cargo airline service is predominantly between cities of over 50,000 inhabitants and probably always will be.

Table 3 summarizes the frequency of use of air cargo services by industry groups. Any compilation of this sort should, of course, be regarded as only a very rough guide to the frequency of use because of the natural limitations of the data. This table does, however, reveal that 25.6 percent of the instances of use of a particular type of air cargo service reported were accounted for in "emergency" use; 34.5 percent in "occasional" use; and 40.2 percent in "frequent" use.

Table 4 summarizes the replies as to typical weights of air cargo shipments by weight group and type of service. It indicates that (Continued on Page 77)



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## WHAT'S IN THE CARDS?

To obtain frank, valuable opinions of Pacific Coast distribution trends and potentialities, DISTRIBUTION AGE's Pacific Coast Correspondent, R. Raymond Kay, put this question to leaders in various major phases of distribution:

"What's the outlook in your field of distribution for 1948?"

Here are their answers . . .



Gladys Gilbert

HON. JOHN H. HALL

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General Secretary

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## OREGON—A DISTRIBUTION HUB

By Hon. John H. Hall

OREGON'S population increase, since the census of 1940, has been exceeded on a percentage basis only by California. The increase for Oregon is 39.2 percent, according to the preliminary estimate of the Bureau of the Census in its release of October, 1947. Current population is 1,517,000 or an average of 54,000 new people each year since 1940.

This growth, together with the westward migration, is developing an empire which formerly had a "colonial" status with the East. This pouring of new millions of people into the Pacific Coast is also resulting in national industries locating in the area, either with major plants or branch plants, and this, specifically, raises the problem of distribution of goods.

Geographically and economically, Oregon is the natural distributing point for the Pacific Northwest—Oregon, Washington, Idaho and western Montana. It is likewise a distributing point for the Philippines, Australia,

A. J. GOCK

Chairman, Board of Directors

Bank of America, N.T. & S.A.

Gladser



Japan, China and Java—all of the Pacific Basin.

Like spokes in a wheel, distribution is provided by five trans-continental railroads; over the highways are dozens of swift freight truck lines; air transport brings national markets within a few hours; and cargo carriers of many flags are in the harbors.

Since V-J Day, scores of distributing facilities have been and are being provided—warehousing, storage, increased transportation and terminal facilities, strong financial institutions and financial services, grading, inspection and other aids to the efficient movement of goods. That these facilities are keeping pace with demands is attested by the many new industries—5,000 in the past two years—establishing themselves in various sections of Oregon.

Only fly in the ointment is the lack of sufficient freight cars to handle the goods which must be dispatched. This has caused acute inconvenience to many industries, but especially that of lumbering. The explanation of the railroad companies is that they are unable to obtain new cars on order. There is also complaint of the recent in-

T. F. McCUE

General Chairman

Pacific Coast Transp. Advisory Board

Traffic Manager (Los Angeles)

Crane Co.





# T DISTRIBUTION TRENDS

creased freight rates and criticism that direct air communication with Hawaii is not made available, despite the efforts of Hawaiian and Portland business interests and the air line.

## TRAFFIC'S CLOUDY OUTLOOK

By J. W. Witherspoon

**W**E start into the year with:  
1. The highest transportation rates in history.

2. A transportation system well worn and depleted from overwork as a result of a recent war.

3. A shortage of motive power and cars of practically all types, as well as the shortage of skilled mechanics to keep the remnant in operation.

On the other side of the picture, we have:

1. An ever increasing flow of tonnage from field and factory.

2. An effort on the part of the carriers to purchase more locomotives and more cars, and to educate more men in the care of this equipment.

3. A sincere effort on the part of railroad management to cooperate with shippers and re-

ceivers in furnishing a service equal to the demand placed upon it through the purchasing power of a world in need of being replenished after years of non-productivity.

With this picture in mind, the traffic manager scans the horizon. Clouds there are, to be sure, but he must chart his course for the preservation of his objective, which is always lower transportation costs for his company, and unimpaired service. This can be accomplished through:

1. Heavier earloading, giving the carrier more revenue at lower rates.

2. Consolidation of l. c. l. shipments into earloads for distribution at strategic points.

3. Reducing the cost of handling and speeding up the loading and unloading of cars through the use of pallets.

4. Helping the carrier through civic organizations in matters of legislation, and group suggestions for a better understanding of their mutual problems.

To summarize what we as traffic managers will look forward to in 1948: It will be a year of hard work, but through faster loading and unloading of cars, heavier

loading of cars, careful packing, stronger bracing for cars, and less circuitous routing, we will expect from the carriers, in return for our hard work, lower rates, better service and more equipment.

## THE WEST COAST'S EXPANDING MARKETS

By A. J. Gock

**W**HILE domestic distribution channels are fairly well established it appears that they are due for further expansion as more goods become available. Also, more and more products are constantly being manufactured and distributed in the West to western markets as our population and purchasing power continue to grow.

The impact of larger populations will be felt in all parts of the country. Old ideas are outmoded in respect to how much of all kinds of goods our people need and the distribution machinery needed to furnish them. But here in the West the field for potential expansion is even more marked. For instance, the 260,300 trade outlets licensed by the Cali-

L. A. JOHNSON

President, Calif. Manufacturers Assn.  
President, Motor Bearing Co., Inc.  
Redwood City, Calif.

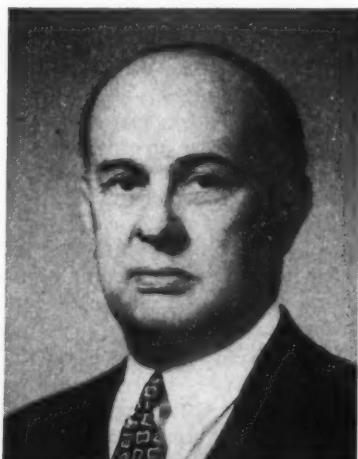
Coy Watson

A. T. MERCIER

President, Southern Pacific Co.

R. T. PRESCOTT

President, The Flying Tiger Line, Inc.



California State Board of Equalization in June, 1947, represented a gain of more than 20,000 over the previous year. Even so, with our increased population in California this represented only about 27 outlets per thousand people as compared to the prewar ratio of nearly 30 per thousand.

Because shortages in the domestic consumption field are still with us to a great extent, emphasis on public interest naturally focuses on domestic distribution problems. However, the entire picture should be considered at this time, particularly here on the West Coast where the greatly increased production capacity is finding many important outlets in foreign trade.

Foreign trade may really present some great opportunities in the next few years, in spite of the present unsettled state of world conditions. Of course, this field is almost entirely dependent on government policy, but the potential is there. In the West we have encountered some obstacles during the past year or two which have received national attention, with the result that many people lose sight of the overall picture. For example, in spite of the labor troubles in 1946 and 1947 affecting the ports of Los Angeles and Long Beach, the value of exports through these ports during the first half of 1947 was greater than that of the entire previous year, and the value of imports during the first six months of 1947 nearly equaled that of the entire year of 1946.

Of course, part of this increase is due to the raise in freight rates which is holding and probably will continue to hold cargo produced in the western part of the country for the West Coast ports instead of a substantial part of it going to eastern ports as formerly.

All in all, there are many elements which go to make the future of West Coast distribution look rather bright as we enter 1948.

We in the financing field are in a position to assure western distributors that here in the West we can furnish them necessary

credit for expansion, and most commercial banks are anxious to support sound business enterprise with operating funds and term loan capital.

We must continue to be vigilant, however, and intelligence, faith, and patience will be even more important during the coming year if we are to accept and carry out our responsibilities and protect our opportunities in the American way.

## CAR SHORTAGE IS SERIOUS

By T. F. McCue

THE railroads and shippers are still confronted with a shortage of cars.

The carriers were promised by the car manufacturers that by July 1, 1947, they would be able to make deliveries of approximately 10,000 new cars of all types per month.

During the months of July and August they only delivered 5,000 per month. This hardly offset obsolete cars which were being returned by the carriers.

During the month of September, 1947, 7,182 new cars were installed and the shippers and carriers are hopeful that by the first of 1948 the car builders will be able to deliver 10,000 or more cars per month. Carriers now have on order with the car builders, orders for over 100,000 new cars and with the locomotive builders, orders for 841 steam, electric and Diesel locomotives.

The carriers during the first week of October, 1947, handled the highest number of carloads of any week for over 17 years. New records of railroad performances are being made.

There is still an urgent need on the part of the shippers and receivers to load and unload cars promptly and for the carriers to switch cars promptly to and from industries; also to eliminate, as far as possible, terminal and line delays.

It has been only by the close cooperation of shippers and carriers that a record high in carloadings has been accomplished without a serious shortage in cars.

This cooperation must be continued if we are to maintain efficient transportation which will reflect in the prosperity of this country.

Claim payments for loss and damage as paid by the Class 1 railroads exceeded \$100 million for the year 1947. Shippers and carriers, through the Claim Prevention Committees of the 13 Advisory Boards, have been making a thorough study as to ways and means of reducing these enormous economic losses.

Shippers and receivers are urged to look into their shipping and receiving practices and correct any condition they may find that will assist in eliminating a claim for loss and damage.

Don't forget, the shipper or receiver eventually has to pay his own claims as these claims are deducted from the carriers' profits and must be made up. Therefore, carriers must make up this deficit by asking for increased freight rates.

## FREIGHT RATES TOO HIGH

By L. A. Johnson

AS SHIPPERS, we can look forward to 1948 with considerable uneasiness about distribution trends and developments.

Like other cost factors, the cost of distribution has mounted rapidly since war's end. But, unlike most cost increases, percentage increases in freight rates are greatly affecting the ability of manufacturers who are distant from great markets to compete in those markets.

The fundamental requirement of the American mass production system is adequate cheap transportation which can place volume produced goods in far away markets at savings to consumers. Unpredictable increases in freight charges, particularly percentage increases, are in direct opposition to this fundamental.

Thus we can look forward to severe economic changes in production and distribution conditions until we, as a people, again have cheap and adequate transportation.

These economic changes may be of temporary benefit to a substantial number of California manufacturers who may now use this situation to get established in many production industries. On the other hand, these economic changes will seriously affect the ability of other California manufacturers to maintain their hard-won competitive position in national markets.

The future is a major challenge to ingenuity. It is possible that a new method of freight movement may be found which will provide the lower cost transportation necessary. Until then decentralization of production with costs higher to the consumer than desirable, but costs lower to the consumer than centralized production plus freight, will be the trend.

## RAILROADS IN TOUGH SPOT

By A. T. Mercier

**P** RIME need of the railroads of America as they enter 1948 is assurance of adequate income to pay their greatly increased expenses and to finance the many improvements required to move what may be a record peacetime load.

Because railroads are dependent on their own efforts, and cannot fall back on government aid or subsidy, they must have sufficient earnings and good credit to attract the money of investors. In the past 25 years they have averaged a return of only 3 2/3 percent on their investment, far from the 6 percent which is considered a fair return. In that same period the costs of materials the railroads buy have risen more than 50 percent, taxes have gone up more than 75 percent and wages have nearly doubled. The railroads survived only by the strictest economies, because under federal ceilings on rates they are charging less today for carrying freight and passengers—measured in average charge per ton-mile or passenger mile—than 25 years ago.

Southern Pacific and other railroads have been unable to obtain delivery as quickly as needed of those new cars they have been

able to finance, because of delays being experienced by the car builders. This company has ordered almost 16,000 freight cars as part of its \$95 million postwar program for new rolling stock. Less than half of them were delivered in time to give us much help in 1947. It is expected that practically all of them will be available during the fore part of 1948.

Most of the 51 new Diesel-electric locomotives, including 28 powerful ones for main line freight and passenger service, ordered by us since V-J Day, were to be delivered before the end of 1947.

It appears unlikely now that our company will receive any of its new streamlined passenger cars before the fall of 1948, and some of them will not arrive until the following year, builders say. It is with deep regret that we have been unable to put into service the new streamliners we had expected to inaugurate during 1947.

Southern Pacific has an impressive program of modernization underway and we are hopeful that the availability of materials will be less severe during 1948 so that we may advance further toward our goal of bringing to our territory the best railroad service it has ever known.

## AIR CARGO INCREASING

By R. T. Prescott

**M** O S T remarkable in the growth of California industries in the past couple of years has been that of exporting cut flowers to the eastern markets. Nurtured along by the all-cargo lines, who have furnished them specially equipped all-cargo planes, the flower shippers have increased their volume some seven times. Many markets for California flowers are still relatively untouched. Before the all-cargo lines brought these flowers to the midwest, Chicago was about the limit of penetration eastward by California cut flowers. Heretofore, air express rates were prohibitive except for the most ex-

pensive cuts and flowers shipped by rail express could not only stand the longer haul but only the most hearty specimens could arrive in Chicago in salable condition.

The New York market which, of course, will be the most lucrative eventually, is just being attacked through the medium of the all-cargo planes and it is believed by most flower men that even the present large volume will be increased several-fold within the next year.

Also notable has been the steady growth of the export of California made garments as indicated by our shipping records. In September 1946 there were 6,500 lb. shipped compared with 33,000 lb. in September 1947. California garment manufacturers are optimistic about the continuation of this steady rate of increase. Air cargo delivery offered at a realistic rate has considerably enhanced the ability of California garment manufacturers to penetrate hitherto untouched markets, since the buyers no longer have to stock large inventories and are more willing to give California garments a trial when they are assured of speedy replacement of stock.

Another budding potential lies in the shipment of fresh produce out of California. The competitor, naturally, in the off-season shipping to the eastern markets, is the frozen foods industry. If refrigerated airplanes can be perfected to give reliable service to such items as berries, shelled lima beans and peas, the potential is virtually limitless. Experiments of this nature are now being carried on and several plane loads have been carried to Cincinnati and Indianapolis successfully. Marketing of this produce has not been on an experimental or publicity basis but has been offered simply as normal moving merchandise and the results have been encouraging.

Druggists are commencing to ship large quantities of cosmetics and drugs by airfreight. This source of air cargo tonnage will undoubtedly show an increase as the druggists become accustomed to the service of the all-cargo lines.



tive control to an entirely new set of conditions.

Obviously, the primary function of all styles of transportation is to render adequate, efficient and convenient service for shippers and travelers at the most reasonable charges consistent with the enlightened treatment of the carriers. Charges for services should be as low as they can be made without sacrificing the sound standards evolved from the experience of many years.

## Method of Attack

A subcommittee of the Committee on Interstate and Foreign Commerce of the House of Representatives was formed consisting of Robert Crosser of Ohio; Alfred L. Bulwinkle of North Carolina; Lyle H. Broren of Oklahoma; J. Percy Priest of Tennessee; Oren Harris of Arkansas; George G. Sadowski of Michigan; Charles A. Wolverton of New Jersey; Pehr G. Holmes of Massachusetts; B. Carroll Reese of Tennessee; Charles A. Halleck of Indiana; Clarence J. Brown of Ohio; with Clarence F. Lea of California as Chairman. (The inquiry was frequently referred to as the Lea Inquiry and the Committee as the Lea Committee.)

The subcommittee began its work by preparing a list of topics which suggested many of the transportation problems of the country. This list, accompanied by an invitation to discuss these suggestions, was widely distributed through the country. Though addressed to individuals and organizations, it was an invitation to anyone who had experience, knowledge, or constructive suggestions which he felt might be helpful to submit his views to the Committee. Everyone was invited to present any subject matter concerning transportation.

Responses, to the number of nearly 500, came from many sources, including companies and organizations, boards and commissions, and individuals interested or experienced in transportation. Naturally these statements are of varying degrees of worth. Many

of them are ably prepared and include recommendations for legislative action by Congress.

In aid of its work the committee employed your speaker as a consultant and the work of analyzing and compiling the statements in useful form for Members of Congress and others was undertaken and resulted in the publication of a report in December 1946. This report did not attempt to reproduce the full text of all the communications. To have done so would have resulted in so large a volume and so much repetition of thought as to have greatly encumbered the record and impaired its useful value. Instead, quotations from typical statements were selected and assembled separately under the various subjects. It is believed that this report fairly reflects the facts, opinions, and recommendations which are set forth at much greater length in the statements received by the committee. All of the statements are preserved in the office of the committee and will be available in the future discussion of these problems. The statements filed may be properly regarded as substantially expressing the views of representatives of our various transportation agencies and others interested as to transportation problems that now confront the country, together with the legislative recommendations proposed as to how the Congress should attempt to meet and solve them.

## Revelations of the Survey

There was a question in the minds of some whether it was generally realized that we were possessed of a national transportation policy which had been restated by Congress in 1940. The survey revealed that there is no doubt that carriers and shippers as well as those of the general public who have any informed opinion on the matter agree that we do have a national transportation policy both sound and reasonably comprehensive. Any assertion that we do not have such a policy is directed to administration rather than legislation.

It is quite apparent that the statement in the Interstate Commerce Act of a national transportation policy is thought to be both sound and reasonably comprehensive. The statement contains a clear recognition of the true objective of the public interest in transportation, namely, that this nation shall have an efficient and economical system of transportation, adequate for the needs of peace and the demands of war, and that each agency of transportation shall be given a fair and equal chance to do that part of the total task which it can do best.

The statement of "national transportation policy" in the Act establishes as goals (1) the recognition and preservation of the "inherent advantages" of each of those modes of transportation subject to the act; (2) the promotion of "safe adequate economical and efficient service" and the fostering of "sound economic conditions in the industry and among the several carriers"; and (3) the "developing, coordinating and preserving of a national system."

The essential point of the present congressional declaration of a national transportation policy appears to be equality of treatment for all forms of transportation, in all respects. This objective cannot be achieved merely by regulation of rates and services in a manner which might appear on the surface to produce equality among the several transportation agencies. Such seeming equality can be made of little or no effect by the government's dealing with transportation in matters other than regulation. There can, however, be no sound system of transportation without a sound policy, consistent, in all of its parts and actually followed.

Many people think that the national transportation policy as contained in the preamble to the Interstate Commerce Act is an ideal, but not an accomplished fact. The ideal is generally conceded to be a fine one; but the statement of policy is thought to have legal effect only in remote contingencies. Even though the

(Continued on Page 84)



## TYPICAL AIR SHIPPER

(Continued from Page 71)

Table 4

Typical Weight of Air Cargo Shipments, by Weight Group and Type of Service (As Reported to the U. S. Dept. of Commerce, Feb., 1947)

Typical Weight and Type of Service	Number of Instances Used
<b>Less than 25 lbs.:</b>	
Air express .....	67
Scheduled air freight .....	5
Nonscheduled air freight .....	2
Air cargo, n.o.s. ....	5
Air freight, n.o.s. ....	2
<b>Total .....</b>	<b>81</b>
<b>25-299 lbs.:</b>	
Air express .....	28
Scheduled air freight .....	16
Nonscheduled air freight .....	7
Air cargo, n.o.s. ....	7
Air freight, n.o.s. ....	9
<b>Total .....</b>	<b>67</b>
<b>300-999 lbs.:</b>	
Air express .....	2
Scheduled air freight .....	6
Nonscheduled air freight .....	3
Air cargo, n.o.s. ....	1
Air freight, n.o.s. ....	6
<b>Total .....</b>	<b>18</b>
<b>1,000 lbs. and over:</b>	
Air express .....	2
Scheduled air freight .....	12
Nonscheduled air freight .....	30
Air cargo, n.o.s. ....	5
Air freight, n.o.s. ....	9
<b>Total .....</b>	<b>58</b>
(n.o.s.—Not otherwise specified)	

air express was used primarily for shipments under 25 lbs., but also to some extent for heavier shipments, particularly those under 300 lbs. The nonscheduled air freight carriers were used, for the most part, for shipments of 1,000 lbs. and over.

### AMERICAN CHAIN TO MEET

The annual meeting and get together of the American Chain of Warehouses, Inc., will be held in the Chalfonte-Haddon Hall, Atlantic City, N. J., Feb. 8, at 2 p.m. The secretary's office is completing arrangements for the annual luncheon for members, their business associates and families attending. This luncheon also will be held on Feb. 8 (Sunday) at noon.



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cent of his customers. Others averaged over 60 per cent.

3. 18 percent of his customers bought 94 per cent of his volume.
4. Another 18 percent bought less than 1 percent.
5. One customer alone accounted for 20 percent of his sales.
6. Over 37 percent of the entire company volume went to 7 of his customers.
7. Over 27 percent of his sales—at 2½ percent commission—provided no gross profit whatsoever to the company.
8. He collected \$21,904 in commission.

Compare with another salesman:

1. The territory potential, based on national figures, was not large enough for one man.
2. He sold, in all, 63 percent of the customers on his list.
3. 64 percent of his customers bought 93 percent of his volume.
4. Another 15 percent bought 13 percent of volume.
5. His largest customer accounted for less than 8 percent of his sales.
6. The whole territory provided only 8.5 percent of company sales.
7. All his sales carried a gross profit for the company.
8. He collected \$5,907 in commission.

By any conceivable standard of comparison the second salesman was doing a much better selling job and earning but little over a quarter as much.

In addition, company sales were so lopsided that some machines were working overtime while others stood idle two hours out of three. This 80 year old company, once highly profitable, had been in the red for six years. Management had come to an impasse. It knew it was in a rut. Production was

efficient because the owners had all been well trained in the shop. The straight commission compensation plan which looked so economical and sensible—no sale, no pay—was slowly ruining them because they had no real control over their distribution.

A new compensation plan with straight salary, expenses and bonus arrangements for sales volume and other standards was installed. The next recommendation was to divide the one big territory into four equal parts and to put a man in each. Management was unwilling,

fearing their prima donna "wouldn't like it" and, if he left, they would surely fail. But there was no practical alternative. Reluctantly, they agreed. When the facts of life were explained to the "star" who had been, of course, merely skimming the cream off his rich territory, he promptly resigned. Management made mental reservations for the poorhouse.

Here is what happened. The territory was divided into four parts with equivalent potentials. Four good average salesmen were hired. At the end of the first year, sales in that divided territory were five times those of the previous year. The company paid in direct sales cost slightly over 60 percent more to 4 men than it had paid in commission to one man for only a fifth of the volume. This one change alone put them in the black.

While it could not be truthfully maintained that all the trouble stemmed from an inadequate compensation plan, nevertheless it was one of the principal causes. The act of creating a proper one which rewarded "balanced selling" necessitated a thorough overhauling of policy, organization and administration covering all phases of distribution. Opportunity was roughly equalized for all salesmen, but the most valuable effect was that the entire program was designed to utilize average men, to pay them well for doing a planned and engineered sales job and to exercise control to see that they did it.

Scientific management in the sales department is a distinct departure from old-fashioned methods of sales management. It is vitally concerned with compensation plans as an effective tool of management, because they take into account every element that influences the marketing program as a whole. It pays the salesmen well for accomplishing a number of different tasks, not all of which will give obvious and immediate results, but which are forecasting the future by showing trends. It puts superficial thinking where it belongs.

### Gibb Re-Elected MHI President

Samuel W. Gibb, Yale & Towne Mfg. Co., was re-elected president and H. A. Carter, Geneva Metal Wheel Co., vice president of the Material Handling Institute at its annual meeting at the William Penn Hotel, Pittsburgh, Dec. 9 and 10. Product sections elected chairmen and vice chairmen (the former automatically becoming members of the board of directors) as follows: Conveyor Section: L. C. Backart, The Rapids-Standard Co., Inc., Chairman; Electric Industrial Truck Section: R. L. Wolter, Automatic Transportation Co., Chairman, and L. J. Kline, The Mercury Mfg. Co., Vice Chairman; Electric Industrial Accessories Section: W. Van C. Brandt, The Electric Storage Battery Co., Chairman, and G. J. Berry, Electric Products Co., Vice Chairman; Gas Truck Section: J. H. W. Conklin, Clark Tractor Div., Chairman, and J. W. Wunsch, Silent Hoist and Crane Co., Vice Chairman; Motorized Lift Truck Section: W. C. Stuebing, Sr., Lift Trucks, Inc., Chairman; Hand Lift Truck Section: L. Nivling, Lewis-Shepard Products, Inc., Chairman; Electric Hoist Section: F. F. Seaman, Robbins & Myers, Inc., Chairman, and J. C. Mervius, American Engineering Co., Vice Chairman; Floor Truck Section: F. J. Thomas, Thomas Truck & Caster Co., Chairman; Caster Section: W. G. Reycroft, The Bassick Co., Chairman, and C. M. Mead, Divine Bros. Co., Vice Chairman; Containers & Pallets Section: L. W. Shea, Union Metal Mfg. Co., Chairman, and C. H. Barker, Jr., Pallet Sales Corp., Vice Chairman.

### Potts To Head MHI Technical Section

Matthew W. Potts, materials handling consultant of DISTRIBUTION AGE, will be chairman of the Materials Handling Technical Section of the Second National Materials Handling Exposition, on Tuesday afternoon, Jan. 13, Public Auditorium, Cleveland. Subjects to be covered at this meeting are: Integrating the Use of Different Types of Materials Handling Equipment, by F. L. Franning, International Harvester Co., East Moline, Ill.; Freight Elevator Application, by William W. Bryant, Western Electric Co., Jersey City; Planning a Store-Room Operation, by A. C. Farley, Davison Chemical Corp., Baltimore.

material and design changes which make for easier installation. We find improvements such as the locking of axles in the frame so they cannot turn, the use of better built and better protected ball bearings which make for longer life, improved roller construction and many other features which more than justify the increase in cost.

In the case of power-driven conveyors, modern practice provides for the use of anti-friction bearings on the head and take-up shafts and better construction of flat and idler rollers. In addition, we have anti-friction bearings, grease fittings, etc., plus the use of fully enclosed gearing, interlocking electrical controls, automatic deflectors. Basic design is better as is also overall construction and operation. It is natural therefore that this more modern equipment should cost even more than the 50 percent normal increase, because of the vast improvements that have been made in the construction and quality of materials used.

What has just been said applies with equal force to mobile equipment, such as industrial tractors, power lift trucks, fork trucks, mobile cranes of all sizes. In most equipment of this type, engineering changes provide for the use of better and stronger materials. Today we have efficient bearings and complete hydraulic units which reduce maintenance and repair costs because they make for rapid interchangeability to keep the equipment in operation. Other improvements include hydraulic steers for heavier units and, in the case of gasoline-operated equipment, water mufflers, oil filters, hydraulic control checks, better hydraulic pumps and hoisting and tilting cylinders. More durable and more heavily wound motors are now being used in electric equipment; other improvements include better electrical controls, heavier duty and better constructed storage batteries, and many other improvements which make for greater efficiency in operation and for lower maintenance costs. Here again, the improve-

ments have been so numerous that it is natural that the equipment should cost more than the 1939 equipment.

In the case of industrial trailers, and over-the-highway trailers, improvements have been made in the more general use of fully enclosed dust-proof bearings, better wheel mountings, heavier duty tires, better frames, all of which would naturally increase cost, but again, in this type of equipment, the writer doubts if prices have advanced more than 50 percent over 1939 prices.

It is impossible to say how much more any particular piece of equipment costs today than it cost in 1939, because the old equipment has been discarded as obsolete in most instances, and is not being replaced today.

One of the possibilities that might make for an increase in price in 1948 would be the fact that production adjustments have been made, and the manufacturers are not producing in the same quantity as they did to meet the war emergency requirements. This reduced production can automatically bring about an increase in costs. Therefore, let us assume that costs should be inflated 100 percent or even 200 percent. Even under these circumstances, management should then balance against the increased cost of the equipment the potential savings that could result from an installation of mechanized equipment. If this equipment reduces the time required for handling materials in production, it has a definite tendency to increase the overall production volume. If it reduces the time in handling "in" and "out" of storage, and the loading and unloading time of over-the-highway vehicles, railroad cars, barges, steamships, etc., it reduces the cost of distribution.

Since all costs have increased, due to inflation in our economic structure, this suppositions increase in cost of materials handling equipment, while inflation in one sense, is not inflation in another—it pays for itself so quick-

(Continued on Page 81)



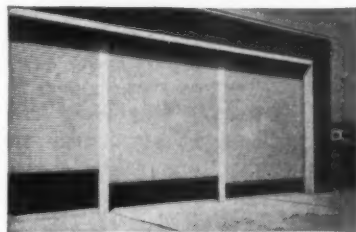
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cent of his customers. Others averaged over 60 per cent.

3. 18 percent of his customers bought 94 per cent of his volume.
4. Another 18 percent bought less than 1 percent.
5. One customer alone accounted for 20 percent of his sales.
6. Over 37 percent of the entire company volume went to 7 of his customers.
7. Over 27 percent of his sales—at 2½ percent commission—provided no gross profit whatsoever to the company.
8. He collected \$21,904 in commission.

Compare with another salesman:

1. The territory potential, based on national figures, was not large enough for one man.
2. He sold, in all, 63 percent of the customers on his list.
3. 64 percent of his customers bought 93 percent of his volume.
4. Another 15 percent bought 13 percent of volume.
5. His largest customer accounted for less than 8 percent of his sales.
6. The whole territory provided only 8.5 percent of company sales.
7. All his sales carried a gross profit for the company.
8. He collected \$5,907 in commission.

By any conceivable standard of comparison the second salesman was doing a much better selling job and earning but little over a quarter as much.

In addition, company sales were so lopsided that some machines were working overtime while others stood idle two hours out of three. This 80 year old company, once highly profitable, had been in the red for six years. Management had come to an impasse. It knew it was in a rut. Production was

efficient because the owners had all been well trained in the shop. The straight commission compensation plan which looked so economical and sensible—no sale, no pay—was slowly ruining them because they had no real control over their distribution.

A new compensation plan with straight salary, expenses and bonus arrangements for sales volume and other standards was installed. The next recommendation was to divide the one big territory into four equal parts and to put a man in each. Management was unwill-

ing, fearing their prima donna "wouldn't like it" and, if he left, they would surely fail. But there was no practical alternative. Reluctantly, they agreed. When the facts of life were explained to the "star" who had been, of course, merely skimming the cream off his rich territory, he promptly resigned. Management made mental reservations for the poorhouse.

Here is what happened. The territory was divided into four parts with equivalent potentials. Four good average salesmen were hired. At the end of the first year, sales in that divided territory were five times those of the previous year. The company paid in direct sales cost slightly over 60 percent more to 4 men than it had paid in commission to one man for only a fifth of the volume. This one change alone put them in the black.

While it could not be truthfully maintained that all the trouble stemmed from an inadequate compensation plan, nevertheless it was one of the principal causes. The act of creating a proper one which rewarded "balanced selling" necessitated a thorough overhauling of policy, organization and administration covering all phases of distribution. Opportunity was roughly equalized for all salesmen, but the most valuable effect was that the entire program was designed to utilize average men, to pay them well for doing a planned and engineered sales job and to exercise control to see that they did it.

Scientific management in the sales department is a distinct departure from old-fashioned methods of sales management. It is vitally concerned with compensation plans as an effective tool of management, because they take into account every element that influences the marketing program as a whole. It pays the salesmen well for accomplishing a number of different tasks, not all of which will give obvious and immediate results, but which are forecasting the future by showing trends. It puts superficial thinking where it belongs.

## Gibb Re-Elected MHI President

Samuel W. Gibb, Yale & Towne Mfg. Co., was re-elected president and H. A. Carter, Geneva Metal Wheel Co., vice president of the Material Handling Institute at its annual meeting at the William Penn Hotel, Pittsburgh, Dec. 9 and 10. Product sections elected chairmen and vice chairmen (the former automatically becoming members of the board of directors) as follows: Conveyor Section: L. C. Backart, The Rapids-Standard Co., Inc., Chairman; Electric Industrial Truck Section: R. L. Wolter, Automatic Transportation Co., Chairman, and L. J. Kline, The Mercury Mfg. Co., Vice Chairman; Electric Industrial Accessories Section: W. Van C. Brandt, The Electric Storage Battery Co., Chairman, and G. J. Berry, Electric Products Co., Vice Chairman; Gas Truck Section: J. H. W. Conklin, Clark Tractor Div., Chairman, and J. W. Wunsch, Silent Hoist and Crane Co., Vice Chairman; Motorized Lift Truck Section: W. C. Stuebing, Sr., Lift Trucks, Inc., Chairman; Hand Lift Truck Section: L. Nivling, Lewis-Shepard Products, Inc., Chairman; Electric Hoist Section: F. F. Seaman, Robbins & Myers, Inc., Chairman, and J. C. Mevius, American Engineering Co., Vice Chairman; Floor Truck Section: F. J. Thomas, Thomas Truck & Caster Co., Chairman; Caster Section: W. G. Reycroft, The Bassick Co., Chairman, and C. M. Mead, Divine Bros. Co., Vice Chairman; Containers & Pallets Section: L. W. Shea, Union Metal Mfg. Co., Chairman, and C. H. Barker, Jr., Pallet Sales Corp., Vice Chairman.

## Potts To Head MHI Technical Section

Matthew W. Potts, materials handling consultant of DISTRIBUTION AGE, will be chairman of the Materials Handling Technical Section of the Second National Materials Handling Exposition, on Tuesday afternoon, Jan. 13, Public Auditorium, Cleveland. Subjects to be covered at this meeting are: Integrating the Use of Different Types of Materials Handling Equipment, by F. L. Franning, International Harvester Co., East Moline, Ill.; Freight Elevator Application, by William W. Bryant, Western Electric Co., Jersey City; Planning a Store-Room Operation, by A. C. Farley, Davison Chemical Corp., Baltimore.



material and design changes which make for easier installation. We find improvements such as the locking of axles in the frame so they cannot turn, the use of better built and better protected ball bearings which make for longer life, improved roller construction and many other features which more than justify the increase in cost.

In the case of power-driven conveyors, modern practice provides for the use of anti-friction bearings on the head and take-up shafts and better construction of flat and idler rollers. In addition, we have anti-friction bearings, grease fittings, etc., plus the use of fully enclosed gearing, interlocking electrical controls, automatic deflectors. Basic design is better as is also overall construction and operation. It is natural therefore that this more modern equipment should cost even more than the 50 percent normal increase, because of the vast improvements that have been made in the construction and quality of materials used.

What has just been said applies with equal force to mobile equipment, such as industrial tractors, power lift trucks, fork trucks, mobile cranes of all sizes. In most equipment of this type, engineering changes provide for the use of better and stronger materials. Today we have efficient bearings and complete hydraulic units which reduce maintenance and repair costs because they make for rapid interchangeability to keep the equipment in operation. Other improvements include hydraulic steers for heavier units and, in the case of gasoline-operated equipment, water mufflers, oil filters, hydraulic control checks, better hydraulic pumps and hoisting and tilting cylinders. More durable and more heavily wound motors are now being used in electric equipment; other improvements include better electrical controls, heavier duty and better constructed storage batteries, and many other improvements which make for greater efficiency in operation and for lower maintenance costs. Here again, the improve-

ments have been so numerous that it is natural that the equipment should cost more than the 1939 equipment.

In the case of industrial trailers, and over-the-highway trailers, improvements have been made in the more general use of fully enclosed dust-proof bearings, better wheel mountings, heavier duty tires, better frames, all of which would naturally increase cost, but again, in this type of equipment, the writer doubts if prices have advanced more than 50 percent over 1939 prices.

It is impossible to say how much more any particular piece of equipment costs today than it cost in 1939, because the old equipment has been discarded as obsolete in most instances, and is not being replaced today.

One of the possibilities that might make for an increase in price in 1948 would be the fact that production adjustments have been made, and the manufacturers are not producing in the same quantity as they did to meet the war emergency requirements. This reduced production can automatically bring about an increase in costs. Therefore, let us assume that costs should be inflated 100 percent or even 200 percent. Even under these circumstances, management should then balance against the increased cost of the equipment the potential savings that could result from an installation of mechanized equipment. If this equipment reduces the time required for handling materials in production, it has a definite tendency to increase the overall production volume. If it reduces the time in handling "in" and "out" of storage, and the loading and unloading time of over-the-highway vehicles, railroad cars, barges, steamships, etc., it reduces the cost of distribution.

Since all costs have increased, due to inflation in our economic structure, this suppositions increase in cost of materials handling equipment, while inflative in one sense, is not inflative in another—it pays for itself so quick-

(Continued on Page 81)

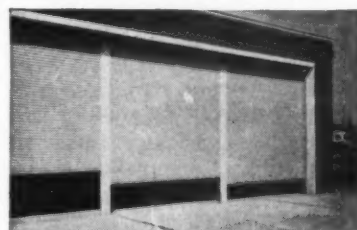


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## QUALITY CONTROL—(Continued from Page 25)

also by a laboratory in New York which specializes in tests for fabrics and fashion wearing apparel.

2. "Inspection at manufacturing sources" . . . This is being carried on by about 30 Ward factory inspectors who periodically visit the many different manufacturing sources.

3. "Providing such specifications, standards of quality and definitions as are requested by other branches of the company for inspection, sizing, merchandise testing, advertising and general buying operations" . . . This has included the development of many thousands of specifications, inspection standards and merchandise samples or models now in use.

4. "Clearing of merchandise irregularities, high return analyses, substitutions, and the issuance of necessary dispositions in such a manner as to provide follow-up in other branches of the company for action, protection of customer interests, uniformity and conformity to merchandise policies."

5. "Reports to management on broad quality deficiencies of merchandise or source, with an outline of the corrective action to be taken" . . . These are impartial fact-finding reports, which also may recommend new company interdepartmental coordination records and activities.

These groups of services pertain to different Ward divisions. The merchandise division is responsible for procuring from quality sources merchandise which is tested, prepared and described in accordance with Ward's policy. It also is responsible for taking prompt corrective action on merchandise deficiencies, by assisting cooperative sources through close buyer contact or through the help of service personnel, and through the elimination of sources with a repeated record of broad failure. On

the other hand, the mail order and retail branches of the company inspect merchandise received by the company, report merchandise and source deficiencies, and analyze customer returns.

Ward's present procedure in the fixing and maintenance of "quality standards" has had a long period of development. It goes back to the passage of the Federal Pure Food and Drug Act of 1906, soon followed by the development of the Chicago Testing Laboratory designed to afford company protection and aid in merchandise improvement. Even then Ward's "Satisfaction Guaranteed" pledge to customers was in effect.

Through the years laboratory tests were extended to other fields for the purpose of deriving merchandise advantages from improvements in design, appearance, quality and customer price and for the purpose of passing on to factory sources improvement recommendations. In 1939, Wards began sending inspectors directly to source factories.

However, the development of this quality control program has involved some complex administrative difficulties. Mr. MacDonald, in a talk which he made on "Quality Control In the Distribution of Consumer Commodities" before a recent meeting of the New York District of the American Society for Testing Materials, summarized this problem:

"The quality of ultimate consumer goods is dependent upon two sets of elements: 1. Those which are tangible and subject to evaluation in units of measurement, such as strength, colorfastness, heating capacity, etc. 2. Those which are relatively intangible, such as exterior design, details of workmanship not normally associated with durability, general appearance, etc.

"Quality control of merchandise, therefore, is a very complicated phase of merchandising activity which is designed to control the elements which define the degree of excellence and customer acceptance of merchandise."

During the late war period, the Ward management began to give special attention to these "complications." Early in 1943, top executives in the merchandising and mail order divisions initiated the study of a plan for the setup of a "quality control" unit.

One of the first developments was the creation of a merchandise examination standards department. Then it was decided, in 1944, to combine in a single new department various functions and activities essential to quality control which previously had been handled by different departments. This resulted in the organization of Ward's present quality control department. This new department includes coordinating divisions commonly referred to as the "quality group." They are merchandise service auditing, laboratories, merchandise examination standards, factory inspection, and a size specification department.

Briefly, the group is described as a "service agency" and all of its activities are coordinated with the actual needs of the management and the various component divisions of the company, as outlined by their respective managers. Group reports, recommendations and other activities must be simple, factual, and impartial. New personnel are appointed only after consultation with managers in other branches concerned, and the performance of such personnel is mutually reviewed at intervals. Differences of opinion between the quality control department and any other company branch are referred to the appropriate management office for decision. Specific new quality control activities and expansions must be approved. Quality control personnel does not contact manufacturing sources unless properly introduced by the buying division.

As related to the establishment of buying standards or specifications, the quality group operates in conjunction with buying divisions. Also, standards or specifications will be reviewed frequently and revised or supplemented when necessary so that they may be kept in line with market conditions. Every effort is made to set these

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## HANDLING PRICES

(Continued from Page 79)

ly that the old proverb comes into force: "If it pays, it's cheap, no matter what it costs you."

This is the way to look at materials handling equipment in the overall. However, if the manufacturers of this equipment are wise, they will see what they can do to improve design and to keep up the quality of their merchandise while at the same time prepare to effect reductions as soon as such reductions are possible. Whether or not costs will increase in 1948 is not known but management should certainly continue to buy and use more and more materials handling equipment.

## CONTAINERS

(Continued from Page 31)

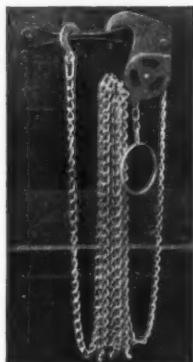
dock watching and checking and clerking costs were eliminated. Other test shipments revealed that hatches of average ships could be cleared of cargo packed in shipping containers at an average rate of 12 containers per hour. Records maintained of one shipment showed container unloading time of 45 minutes from an average hatch, as compared with three or four hours necessary to unload comparable tonnage of loose, individual packages.

Freight transfer costs are expected to be reduced by the use of such shipping containers, not only because less time is required for loading, but because checking, sorting and distribution is simplified, identical size packages are handled and stowed, containers can be handled by mechanical equipment, and no delay is involved because of dunnaging requirements of loose cargo.

With such a container, shippers can supervise loading and unloading on their own premises, and give the carrier a locked or sealed package which is then handled as a single unit throughout its transporting to the final seller or user. This advantage is significant since damage and pilferage claims against freight steamship lines

(Continued on Page 83)

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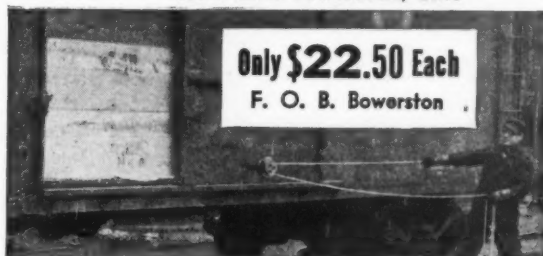
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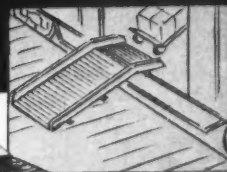
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standards as high as practical but not at such a level as might place the divisions concerned in an unfavorable competitive position. Neither will they be so low as to encourage merchandise lines below a level of quality having good customer acceptance.

The general clearing house for administration of quality control work is the merchandising auditing division. Through this division the mail order houses report their merchandise irregularities; that is, goods from factories which do not pass inspection, returns of goods from customers, and specific customer complaints. The mail order houses also use merchandise auditing to make their requests for laboratory analyses and prepare explanations for customers on quality matters.

In carrying out its functions, merchandise auditing maintains a strict customer viewpoint. They make clear-cut decisions as to approval or disapproval of requests or recommendations. These decisions are reached through: (a) review of merchandise, (b) consultation with Buying Division and other departments or branches of business involved, (c) discussion with manufacturers, (d) comparisons with merchandise offered by other merchandising organizations, and (e) consultation with management when necessary.

The stated purpose of the main Ward laboratory in Chicago, supplemented by the New York laboratory, is "to provide such professional personnel, equipment and consultation services as are necessary for the accurate evaluation of compositions, engineering design and potential performance characteristics of merchandise." The laboratories have the following stated functions:

1. Analyze and compare Ward items with those of competitors.
2. Test vendors' samples for intrinsic merit as well as propriety and adequacy of claims.
3. Examine merchandise complaints for defects, inade-

quate instructions or cautions, and exaggerated claims, with a view toward constructive suggestions for improvement.

4. Assist in the development and maintenance of merchandise standards (or specifications).

5. Review catalog, label, instructional literature and other copy for correctness of factual statements and general conformity to technical-legal regulations.

Whenever practical, in the examination of a specific merchandise item, the laboratories report finding either as "favorable," "unfavorable," or "comments and suggestions for improvements." It is estimated that from about one-fourth of the laboratory examinations, there have resulted practical improvement suggestions returned to sources. However, in reporting their findings, the laboratories neither directly approve or disapprove the sale of merchandise, since such a decision is the function of the merchandising groups. But in special cases, the laboratories may for technical reasons recommend against the sale of merchandise. The laboratories encourage the buying divisions to require that their source vendors of merchandise submit factual data about their products to substantiate promotional claims.

Merchandise examination standards, one of the main activities in the quality group, recently have been considerably expanded. Activities now include new merchandise examination manuals for the guidance of merchandise inspectors, and a carefully maintained filing system which records and rates the reliability of manufacturing sources in the supply of merchandise that measure up to Ward's specified standards. The standards being used by Ward for the inspection of merchandise include size specifications, photographic standards, cards and samples, which have been developed through consultation with the buying division, mail order

merchandise managers and principal manufacturing sources.

The Division of factory inspection has the following functions:

1. To check the adequacy of manufacturers' inspection methods, packaging and literature.

2. To cooperate with manufacturers to secure improvement in inspection methods for the reduction of returns and the amount of inspection in mail order houses and retail stores.

3. To make sure that defects reported are corrected by manufacturers.

4. To advise buying divisions on specifications, durability of designs, possible improvements and recommend laboratory work when necessary.

As a practical operating guide to factory inspection, Ward's has developed four different grading marks for their manufacturing sources:

1. A Class I mark is "tops", indicating that at this source only initial shipments of new products need be inspected, and that subsequent factory inspection visits are not necessary.

2. A Class II mark indicates that all initial shipments of new or redesigned articles should be inspected at the factory, and that few subsequent inspector visits are needed.

3. A Class III mark indicates that all initial shipments of new or redesigned articles must be carefully inspected at the factory, and that frequent inspector visits at the factory are necessary.

4. The lowest mark, Class IV, indicates a factory which usually will require inspection of all production at the factory.

As stated, Ward's quality control program has been in process of development through a period of years, and there are constant additional changes and improvements. The keynote of the program is "flexibility" in order to provide prompt adjustments to changes in market conditions and company merchandising policies.



## CONTAINERS

(Continued from Page 81)

have risen to as high as nine percent of gross revenue. One insurance underwriter reduced its base rate 50 percent for goods shipped in steel containers.

These containers interlock and fit into ships' holds 'tween decks or on railroad cars with a minimum loss of space. They absorb the force of any shock or pressure. Domestic and lighter packing can be used, and savings in weight tend to offset container weight.

Dimensions of the container are based upon heights 'tween decks; sizes of holds, hatches and side ports of lake, ocean and coastal ships; width of standard river barges, and the size of railroad cars. Although containers are now being manufactured in only one standard size, it is contemplated that others may be "custom built" for special merchandise or equipment.

The standard container is 7 ft. 9 in. long, 6 ft. 5 in. wide and 6 ft. 10½ in. high. It weighs approximately 1650 lbs. and has a 277-cu. ft. capacity. Frame of the container consists of four corner posts formed as 9 x 9 in. open box-shaped sections in 11-gauge sheet steel and connected at top and bottom by angle members. Walls are of 18-gauge sheet steel formed to provide vertical reinforcing corrugations about 4 in. wide and 2 in. deep. The floor is 16-gauge sheet steel laid on reinforcing 14-gauge sheet steel with formed corrugations. Reinforcing straps across the bottom serve also as rests for fork trucks. The roof is of 16-gauge corrugated steel covered by flat 16-gauge sheet steel.

Double doors, made like the walls, form an opening 57 in. wide and 71¼ in. high. Latches at top and bottom are operated by a lever which is equipped with a hasp for securing with padlock or seal.

For crane handling, horizontal pins or lugs are provided in the four roof corner recesses. A bridle suspended from a crane boom can be hooked around the lugs to lift the container. The container may be handled by either platform or fork trucks.

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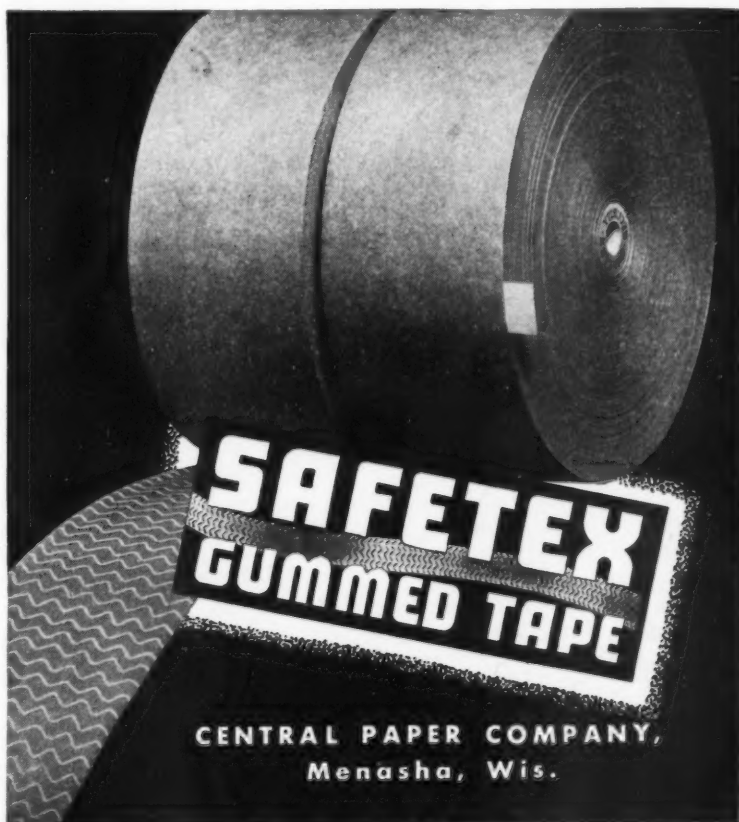
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statement affords a general guide to administrative agencies, other factors so frequently exert such compulsion that, when results conform to the national transportation policy, it is more likely to be a coincidence rather than because of design.

There is also a feeling of doubt in the minds of some whether the statement of the national transportation policy is the important thing. Rather, it is thought that the statement of a transportation policy is merely the setting up of a goal and that the law as stated in the Transportation Act is really the important thing. There is also the feeling that the trouble with our present policy, if any, is that, as it is stated in print and in the preambles to various transportation laws, it is quite different from that policy as it may exist in the minds of legislators.

It is to be noted, however, that the criticism that there is no declared national policy with respect to transportation in its relation to the national economy comes generally from, and is greatly stressed by, students of economic problems, rather than either carriers or users of transportation.

It might be concluded that the policy question is possible of only one clear and satisfactory answer which is that there shall be no sanction of any experiments with transportation as a vehicle or instrument for social reforms or solution of economic difficulties, but that transportation shall be preserved as a servant performing the function of moving goods and carrying passengers in the free flow of interstate commerce.

On the subject of regulation, the consensus of opinion of carriers and other respondents was largely in favor of a single regulatory agency. The carriers now regulated by the Interstate Commerce Commission favoring a single agency. The air lines, supervised now by a separate regulatory agency, wished to maintain the status quo. Users of transportation largely favored the single regulatory agency.

Sentiment was sought in the in-

quiry concerning possible reorganization of the ICC. Sentiment was about evenly divided on this topic. The rail carriers and many users of transportation services saw no need for it. Motor and water carriers, on the other hand, presented a strong case for complete reorganization, which opinion was shared by various students of the general transportation situation. A general opinion prevailed that a reorganization of the ICC would be necessary were this body given regulatory control over air transportation.

On the question of the exemption of common carriers from the application of the anti-trust statutes where the activities in question are under the supervision of the regulatory agency, sentiment, particularly as expressed by users of transportation, was overwhelmingly in favor of such an exemption.

On another important regulatory subject, the general opinion was overwhelmingly against federal governmental agencies engaging in the promotion of common-carrier activities. Among the carriers, the railroads were against it and the air lines favored it.

On the question of differential rates as between different types of carriers, the consensus was that such rates are only warranted, desirable, or necessary when and to the extent that they reflect the difference or differences in (1) the cost of performing a service by any carrier or carriers; (2) the value of the service to the user.

Sentiment on the question of the coordination of services of carriers of the same type and of different types was strongly in favor of carriers being permitted and encouraged to coordinate their services, both within a single field and between different fields, to the end that each carrier will perform for the public the service for which it is best adapted. It was felt, however, that the law should not force coordinated services. Any coordination should be entirely voluntary, subject, of course, to proper requirements of a regulatory body and to sensible

restrictions to insure against unreasonable restraints of competition.

Various financial questions were a part of the inquiry. On these opinions were expressed as follows: (1) On the advantages and disadvantages of various means of financing transportation agencies, the consensus was that each means of common-carrier financing has its peculiar advantages and that the objective today is to achieve a good balance between the methods used. It was also felt that it was important to keep fixed charges within limits having a direct relationship to probable earning power, under reasonably competent management, and without the hazard of direct or indirect confiscation of property. (2) On building up common-carrier credit ability, it was generally held that the continuance of private ownership of common carriers depended in large measure upon the administration of our various transportation laws in such manner that the private investor might expect a reasonable return on his investment. (3) On building up reserves, no doubt was expressed as to the wisdom of permitting common carriers to build up reserves to keep their properties in proper condition and to maintain services and employment during the periods of depression. (4) On the needs for new capital and how they may be met, only a few estimates of common-carrier new capital needs were received, but it was the general feeling that from 1946 to 1956 they would be double those of the 1920 decade. Such capital requirements can be met only if reasonable assurance of earnings can be given to restore confidence in common-carrier equities. (5) On the legislative or administrative remedies, if any, needed to encourage private-capital investment in the common-carrier industry, the general feeling on this subject was that any legislation which becomes necessary to implement our declared national transportation policy would be equally necessary to encourage private investment in common carriers. (6) On the

(Continued on Page 86)

## TALK PLUS ACTION

(Continued from Page 69)

mers finally acknowledged: "Frankly, I cannot find any serious defects in this line-up of costs of transportation. It brings those costs out into the open. I presume Tripp is willing for us to go ahead with the job. After all, it will make no distinct change in the uniformity of our accounts."

"Surely," answered Tripp. "And when the costs of transportation are at hand each month we shall have a knowledge of the actual conditions of our business insofar as those costs are concerned."

The president, Charles Knowles, had remained silent. Now he spoke. "Tripp, I'm glad you made that decision. If you hadn't, I should have gotten into the argument on Jack's side. It's high time we gave attention to our costs of transportation in the same manner as we do to our costs of production and sales."

"And," interjected McCormack, "I'd like to add that the majority of those in top management seem to forget that without transportation there could be no wide-scale production or selling. I predict that the accounting plan which the company is adopting will bring about reduction in our costs of transportation."

Jack's prediction was fulfilled. The accounting department compiled costs of transportation. At the close of the first month an analysis was made. It disclosed ways whereby the corporation's trucking costs were lowered by \$72,200 yearly. And that was merely the curtain raiser all along the line.

THE PUBLIC MERCHANDISE WAREHOUSE IN DISTRIBUTION, 16-p. pamphlet by Wilson V. Little, Exec. Secy., American Warehousemen's Assn., the text of his address before the Chicago chapter of the American Marketing Assn., describing the services and functions of the public merchandise warehouse. American Warehousemen's Assn., Merchandise Div., 222 W. Adams St., Chicago 6, Ill.

FARQUHAR FREIGHT CONVEYORS, 12-p. illus. brochure, containing descriptions of the Farquhar line of freight handling equipment. A. B. Farquhar Co., 203 N. Duke St., York, Pa.

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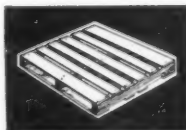
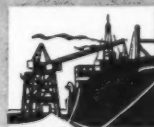
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effectiveness of present bankruptcy procedures in reducing capital structures, the consensus was that the present procedures are most unsatisfactory, resulting in transportation systems being controlled by the courts for undue periods of time and for the "freezing out" of equities on an unequitable basis. It is felt that if public confidence is to be restored in common-carrier securities there should be an immediate change in bankruptcy procedures for such carriers.

Opinions expressed on the subject of common ownership and integration were largely centered around the policy of common ownership, operation, and control of common carriers of the same type and of different types. It was the general consensus that when consolidations of carriers of the same type can be voluntarily and naturally brought about that the public interest is thereby promoted and carrier credit positions improved. It is easier also to maintain reasonable rates, savings in capital outlay and operating costs result, service in general to the public is improved, and greater stability is achieved by the carriers concerned.

Opinion on the question of common ownership and operation of carriers of different types was evenly divided among users of transportation services. Approval was usually qualified by the expression that such common ownership and operation should never be permitted to result in a monopoly. Railroads are in favor of common control of various types of carriers by one type while the water carriers, motor carriers, and the air lines are against it.

On the question of taxation, it was the general consensus that taxes of common carriers should certainly bear some relationship to revenue and that multiple and discriminatory taxation, by various political subdivisions, should be avoided. This might be brought about through the establishment of a formula for allocating among the states, for tax purposes, the

equipment and plant of interstate carriers.

General views on government aid to transportation were expressed with opinion overwhelmingly against federal aid to transportation agencies. It was the belief that all carriers should pay their own way, except in very rare instances where private capital cannot, or will not, provide the service or because certain transportation facilities are needed for national defense. It was the clear consensus that federal aid to other carriers works an injustice on the railroads. The remedies suggested were numerous, but all involve assessment of "user charges" for the self-liquidation of federal funds invested in highway, waterway, airway, and airport facilities.

There was unanimity of opinion that the federal government possesses the legal authority and public duty to remove state barriers to the free flow of commerce, but there was a difference of opinion as to how this should be done. There was also the realization that whereas some "barriers" can probably be removed under the "commerce clause" of the Constitution, many others arise out of state laws which the federal government might be reluctant to interfere with in peacetimes.

As to submarginal carriers, the consensus was that such carriers should not receive government support except in cases where the maintenance of a particular instrumentality of transportation is definitely necessary for the public good or national defense. It was the belief that submarginal carriers should be abandoned where substitute services can be provided. This attitude is of particular interest at this time, when coastwise and intercoastal water carriers are in such a crucial condition that we are faced with the possible loss of this form of transportation.

#### **The Next Step in the Inquiry**

Among all the topics covered by the survey, certain ones stood out as most significant. None of these

were particularly new, but they were all disturbing, either to the transportation industry as a whole or to particular segments of it. They were all matters of national transportation policy, as distinct from matters of management, and as such demanded thorough investigation in order to dispell uncertainties. It appeared that either legislative action was soon needed to conclusively settle all uncertainties or a definite decision should be reached that these were not as great problems as they seemed and could be solved without legislative action. These problems were:

1. Whether or not the regulation of all common-carrier forms of transportation should be centralized in the Interstate Commerce Commission either as presently organized or under a reorganization. This question might well be considered under two heads: (a) for domestic carriers, (b) for combined domestic and foreign carriers.

2. The wisdom of control and operation of one form of carrier by another and, if permitted at all, under what circumstances and conditions. This is familiarly known as integration.

3. Whether, under present competitive conditions, the federal government is warranted in continuing the promotion of one or more types of common carriers, but not of others, and in granting aid to certain types, but not to others, except on a self-liquidating basis.

4. The exemption of common carriers from the application of the antitrust statutes where the activities in question are under the supervision of the federal regulatory agency.

5. Whether the present regulatory bodies, working within the framework of existing statutory authority, can be deemed to have sufficient scope and to have developed administrative practices

(Continued on Page 88)



## HANDLING LEADERSHIP—(Continued from Page 21)

Standardization of height for freight car and motor truck platforms.

Standardization of body heights for motor trucks and trailers.

Greater use of fork trucks.

Standardization of pallets.

Cheap sources for pallets.

Development of pallet patterns for loading.

Development of palletized unit load shipments.

Unit carloading, both pallet and package.

Change in design of planes unloading air cargo.

Use of mechanical equipment for loading and to permit level loading with the tail raised.

Larger openings for air cargo.

Loading through the nose of the plane.

Loading from the rear of the plane.

Need of coordination between carriers to facilitate better handling.

Promoting the idea of materials handling's being a function of traffic management.

Need for a materials handling association.

Use of women to operate materials handling equipment during the war emergency.

Development of tractor-trailer systems of handling.

The foregoing is but a partial list of the many phases of materials handling which have been fostered in the columns of DA. Judged on the basis of the quality and quantity of materials handling articles published during the past 25 years, the writer has no hesitancy in saying that he regards it as the pioneer publication in the materials handling field.

Doubtless many readers who have been perplexed by the occasional use, even in materials handling circles, of the term "material handling" instead of the more orthodox and more widely used term, "materials handling," will be interested in learning how

this latter term came into existence. It's an interesting story.

In 1925, when the writer was editor of *Industry Illustrated*, he received a letter which read, in part:

"Your use of the words 'materials handling' has always bothered me somewhat. The word 'material' carries in itself a plural connotation which seems to make it unnecessary to add the 's' . . . All practical men are more or less suspicious of affectations of any sort which they take as an indication that the person writing is not a practical man."

The questioner was answered somewhat as follows:

"Material" does imply the plural, but *Funk and Wagnalls New Standard Dictionary* says: "specif.: the matter that forms or may form a component part of some material structure as a machine or a building; often in the plural; as, the strength of materials." The writer does not intend any affectation, but it seems to him that this latter definition fits the case more exactly than the former. A practical man wants to be exact.

The writer's reply and his practice of using the term seemed to have no immediate effect, but it is surprising how many have since come over to the use of the term "materials handling." He claims no priority in its use. Howard Frost, addressing the Civic Industrial Div., Chicago Assn. of Commerce, April 1, 1920, spoke on: "Cost of Waste in Present Day Methods of Handling Materials." Before this in 1916, C. Kimble Baldwin, M.E., vice president, Robbins Conveying Belt Co., writing in the *Mechanical Engineers Handbook*, p. 1105, used the plural extensively.

On page 149 of the *Material Handling Cyclopedica* of 1921, we find references to "unloading materials . . . handling materials," proving that both the singular and plural terms were sometimes used in the same publication. The American Society of Mechanical

(Continued on Page 91)

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tices adequate to deal with the rapid movements of economic events; and the results of actions by other government agencies over which they have no control, but which act without reference to carrier revenue needs. This is particularly important when one considers the financial position of all carriers today and the need for their building up reserves, attracting private capital, and maintaining their properties in proper condition so that services and employment may be maintained during periods of depression.

During the first session of the 80th Congress, the Committee continued as a natural, fact-finding body and did not take a position on any of the topics just mentioned except the fourth. Here the Committee went on record as favor-

ing the exemption of common carriers from the application of the anti-trust statutes, where the activities in question are under the supervision of the federal regulatory agency, by reporting favorably to the House the Bulwinkle Bill, which made provision for this type of exemption. Hearings were held bearing on the wisdom of control and operation of one form of carrier by another in connection with proposed legislation to permit the operation of aircraft by ocean steamship operators. The Committee took no definite stand on this matter, however.

#### Present Activities

Early last spring several interested groups approached the House Committee on Interstate and Foreign Commerce with the idea of aiding further in: (a) resolving the issues of the transportation problem among the vari-

ous economic groups in the country and (b) drafting, for consideration of the Committee, the essentials of a new national transportation policy.

Such assistance was welcomed by the Committee; but it must be recognized that little progress is possible with so complicated a problem if the various groups adhere to past procedures, i. e., to promote their own particular theories and positions. The Committee expects that interested groups will take every appropriate step to reconcile points of view and bring about common accord on the issues of the problem. It is hoped that eventually the Committee may receive recommendation for a new system of regulation to replace the outmoded system which has developed and which is based upon principles applicable to conditions existing thirty years ago.

#### MARITIME FUTURE—(Continued from Page 63)

of the American merchant marine for coastwise and intercoastal cargoes—cargoes which could easily and quickly be handled by sea, saving a huge portion of the burden that has tied up the nation's rail lines in one of the greatest traffic messes in our history.

The American Legion has recognized the seriousness of the situation, and has already embarked on a carefully planned program of public support of the new American merchant fleet. More of this farsighted support is

needed if we expect to avoid another catastrophic slump in the size of the fleet that carries the products of our national productive machine to every part of the world.

America cannot afford less than a healthy, busy merchant marine. The lessons of the years extending back to the very founding of the nation point to this fact. We now have the ships and the trained personnel to make this need a reality, but government neglect, red tape and complete shortsightedness are slowly strangling

our merchant fleet into its former state of moribund uselessness. The years of sweat, labor, planning and building, plus much of the seventeen billions of taxpayers' money is being left to rot gently away at the quayside, while our competitors step in and take our trade away from us. The time to save what we have left is rapidly slipping away. The needs of tomorrow may be too urgent to allow us the years of grace that we were given in the emergencies of the past.

#### CAR SHORTAGE—(Continued from Page 51)

maximum utilization of all equipment.

In this campaign, employees continually point out to shippers and receivers of commercial freight the advantages gained in loading and unloading cars with the least possible delay. This makes more cars available for loading the commodities in which they are vitally interested. They also stress the importance of full tonnage in

l.c.l. merchandise cars and miscellaneous l.c.l. shipments of company materials and supplies, and of utilizing available equipment for loading or unloading. They also ask assistance in relocating cars in territories where they can be used to good advantage for reloading, when released. Our traffic department representatives also cooperate with division forces and our inspectors in this respect.

We've found that there never has been more genuine and sincere cooperation among the various railroad departments and the shipping public in general in freight car efficiency. This is "proof positive" that all concerned are determined to find out just how far the new "freight car stretcher" will go in providing additional equipment for loading during the trying months ahead.

## RAIL TRANSPORTATION

(Continued from Page 38)

cars available for service is increased between 100,000 and 150,000 or more.

As this is written, the railroads have on order more than 126,000 freight cars, which are more than the car-building plants can manufacture in a year to come at the present rate of output. It is hoped that car deliveries during the coming year will be stepped up to the point where the railroads will be able to place in service a lot more cars than they retire.

A turn in the right direction was taken last September, when the railroads put in service approximately 7,500 new cars, which were about 700 more than were retired during that month. A goal of 10,000 new cars a month has been set, the attainment of which depends largely upon the availability of steel.

Since the end of the war, there has been an improvement in railroad freight service, and there is every reason to believe that even greater improvement will be made during the coming year. Schedules are being shortened, new and better services are being offered and handling facilities are being improved. The new freight cars have greater capacity, are smoother in operation, and require less time out for repairs.

During and since the war, loss and damage to freight in transit has increased substantially. Efforts are being made by both the railroads and the shippers to drastically reduce this waste, and there will be even greater efforts along this line during 1948.

## MARINE TRANSPORTATION

(Continued from Page 22)

Merchant marine, gained during the war and still fresh in the people's minds, is especially necessary today. Not only is favorable public opinion required to assure our place in the maritime world, but also active support from American merchants, shippers and travelers must be had.

The year 1948 will show, I am confident, that the lessons of the

war and inter-war years have not been forgotten. To date, the ships flying American flags have been carrying nearly 60 percent of the world's trade to and from our shores. It is not anticipated that this high share can be maintained forever. The transportation of approximately half of our commerce in American bottoms, however, is necessary. Congress has repeatedly stated that it is national policy to maintain a strong, privately operated American merchant marine. This will not be possible unless our ships are able to carry 50 percent of our trade.

A quality merchant fleet awaits the command of our exporters and importers. With ships that are on the average 25 percent faster than pre-war, that are the newest and finest afloat, and with management that operated a fleet equal to three-quarters of all the tonnage in the world during the war, the American merchant marine is equal to this task.

## PACKING

(Continued from Page 24)

seems to me that one of the central problems is to increase the weight per loaded car, thereby making better use of equipment available by reducing transit costs. Improvements in loading unquestionably will yield better protection for products in transit.

From the developments now in progress in the field of materials handling and product protection, I am convinced that export packing will be improved by better utilization of materials available.

Such a program should make the ratio of net weight to the tare weight more advantageous and should increase the net weight per cubic foot.

Summarizing then, there are unquestionably many improvements to be brought out in the next year in this field. Further, in my opinion, many, if not most of these improvements will be the result of intensive research, combined with intelligent training of the persons involved in this important industrial phase.

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out into total variable costs or untraced cost. On the other hand, if train service is operated regularly from one point of origin to a single destination and from this point of operation to the identical point of operation, carrying a varying number of freight cars loaded with a variety of commodities on the outward and return trips, then the joint cost of operating the train may be considered—the train movement being considered the unit of service or the operation the cost of which is being considered.

An even simpler problem is posed when the joint cost of performing motor freight service from one point to another and in the reverse direction is considered.

If the volume of traffic available for movement in one direction is relatively large tending to equal or exceed the volume of freight carrying equipment available to transport it, the rates obtainable for the movement in this direction will tend to be high. The carriers engaged in its transportation will be eager to complete the outward movement and get their equipment back again to this point to obtain more of this remunerative traffic. This will impel the carriers to seek traffic in the reverse direction. If a large volume of traffic is available, relatively high rates can be obtained for this traffic. If, however, the volume of traffic is small or if the traffic is low-grade traffic which must be attracted by low rates, then the carriers must decide whether they will operate their equipment in the reverse direction without cargo and absorb the expenses of vehicle operation of the return movement in the revenues earned from the outward movement; wait until traffic at higher rates can be obtained, thereby incurring costs in idle equipment and the payment of wages when no work is done; or operate to another point at which traffic may be available for movement to original point. This intermediate haul may be made without traffic or with such cars and at such rates as can be obtained.

This aspect of joint cost accounts for the material differences to be found in the rates on the same commodities in opposite directions, and for the differences in the types of traffic and the average rates on traffic handled by the same carriers in opposite movements in the same general territories.

If the traffic paying relatively high rates ceases to be available for movement, or if the quantity available for movement fails in proportion to the vehicle capacity of the carriers available to transport it, the low-rated traffic sought to make up return traffic will be less attractive to the carriers and less capacity will be available to transport it, and the rates in the reverse direction will tend to rise.

If the low-rated return traffic ceases to be available for movement the return-haul costs tend to be shifted to the outward moving freight, unless this tendency is offset by competition among the carriers seeking the traffic.

A concrete example from the motor freight transportation industry serves to illustrate this phenomenon. The great majority of trucking companies are small enterprises. Many motor freight carriers have business connections in the cities in which their operators reside which enable them to find outward traffic from their base of operations to another point or points. They develop their business on this basis and when their vehicles are in the other cities where their connections for obtaining business are inferior, they are under pressure to find return-haul traffic. They may hold their vehicles over until they find compensatory loads; they may seek traffic to another city where they know or hope there is traffic to get them back to their bases; they may seek traffic from brokers and pay a brokerage fee or commission, thereby reducing their rates or revenues; or they may return the vehicles to the bases without cargo, thereby incurring out-of-pocket operating expenses without earning any revenue.

A factor which has been influential in forcing many intercity motor freight rates downward is the competition in many cities of out-of-town motor carriers which have been eagerly seeking return cargo in order to get back to their home bases where their facilities for obtaining cargo are better. The carriers have been aggressive in seeking cargo at low rates, with the result that motor freight rates in many cases, have been reduced in all directions to a "return load basis," sometimes yielding less than operating expenses.

The price of goods or services established under conditions of joint cost tend to vary inversely. As the demand for one of the products or services increases, more of that commodity or service will be produced. This tends to increase the amount of the jointly produced product or service or by-product without regard to the demand for it. The amount of the incidental product or service may tend to exceed the demand for it so that the price or rate will decline to the point where the demand at that price or rate will absorb all of the product or service offered.

Conversely a decline in the demand for the principal commodity or service produced under conditions of joint cost will tend to restrict production of the article and the amount of the facilities provided to render the service. This will cause a decreased supply of the by-product or "by-service" which will tend to increase the price of the by-product or the rate for the by-service, until equilibrium between the joint supply and demand schedules are reestablished on a new level.

This phenomenon is well-known to students of economic theory. The real problem of joint cost arises after the separable costs are deducted. The combined prices of the products, in the present case the transportation services, tend to equal the joint costs of their production, while the price of each of the separable products or services will be equal to the marginal demand-price of each. Equilibrium is reached at the point of

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## INLAND WATER

(Continued from Page 23)

dent in 1947, will continue well into 1948, and will undoubtedly substantially limit the net profits of the industry during that period. There is a large amount of new construction now underway in all of the shipyards and plants serving the industry, and a substantial backlog thereof which will proceed when iron and steel, other scarce materials, labor, and facilities become more readily available.

There is much evidence that inland or domestic water transportation will henceforth play a more important role in the economy of the nation. Many new large manufacturing and fabrication plants are now under construction on the improved navigable waterways of the United States, and the traffic thereto and therefrom will benefit domestic water carriers and operators. It is very apparent that manufacturers and distributors no longer desire to have their "transportation eggs in one basket," and are building new plants and warehouses in locations on the inland waterways, where all types and kinds of transportation are readily available. There is no doubt this trend will continue in 1948.

## HANDLING

(Continued from Page 24)

cient or efficient. That is why it would be well for those who are surveying their materials handling problems for the first time to check all methods of handling materials before placing their order for equipment. To do this job most efficiently, it would be wise to consult with either a firm of materials handling engineers, or engineers of manufacturers of materials handling equipment who, with their broad experience and knowledge of many such problems, will not only be glad to aid them, but can help expedite their materials handling program. 1948 looks like a good year, a hard-selling year, a hard-working year. The coasting is over.

## WAREHOUSING

(Continued from Page 23)

building costs that are almost wholly unrelated to current warehouse tariffs. Construction men have pointed out that many present construction costs are unjustified and can be materially lessened by an easing of present shortages of certain essential materials and especially by the elimination of some of the "feather-bedding" or obstructive practices of certain of the construction unions.

Warehousemen contemplating new construction are urged to proceed with caution. Other factors being equal, one should get a better building for less in 1949 than at the present time.

## LEADERSHIP

(Continued from Page 87)

Engineers formed a separate division, known as the Materials Handling Division, and in July, 1924, the Society's monthly journal carried a story, "Fundamental Economies of Materials Handling."

Today, there still is lack of complete agreement in respect to correct usage. The writer feels, however, that sufficient recognition has been given to the plural ending to make it the preferred term. Obviously, standardization is desirable.

That the growing use of materials handling equipment might some day precipitate labor-management dispute, was a possibility long foreseen by this publication. In order to minimize this possibility, DISTRIBUTION AGE, over the years, has consistently advocated that the term "labor aiding" be substituted for the widely used term "labor saving." Since it is obvious that all economies resulting from improved efficiency must be passed on in the form of lower prices, increased production, or in some other form, the use of materials handling equipment increases not only employment but national purchasing power. Therefore, the use of this term in the writer's opinion is no mere palliative but a precise expression of the function of mechanized handling.

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which the sum of the marginal demand prices for the several products or services produced under conditions of joint cost equals the total costs of the joint production.<sup>11</sup>

In a recent study of the costs of motor carrier operation, Dr. Ford K. Edwards, Head Cost Analyst, Bureau of Transport Economics and Statistics of the Interstate Commerce Commission, recognizes this aspect of the problem of joint cost and states:

"The same principle, [the tendency toward inverse relationship in the prices of jointly produced products or services] applies in connection with the joint costs presented in the return movement of equipment. A demand for truck transportation in one direction only, (say A to B), will occasion a high rate to cover the round-trip costs. But if a low rate at something above the out-of-pocket terminal costs will stimulate a demand in the opposite direction, (B to A), it will be offered up to the point where the unutilized capacity is absorbed. However, such a rate structure may be highly unstable. Should the high-rate commodity cease to move, the low-rated commodity must either pay a much higher rate or cease to move also. Competition among operators for the high-rated traffic, reversals in the direction of the traffic flow, or the appearance of high-rated traffic from B to A, thus displacing the low-grade freight, will upset the rate structure as the 'by-product' traffic finds itself shifted to the classification of 'principal' traffic upon which full costs must [or can] now be recovered. Some compromise must be made between the advantages of long-term stability or rates on the one hand, and, on the other the benefits accruing from the maximum utilization of the

plant and equipment based on the frequent adjustment of rates to changes in the conditions of demand."<sup>12</sup>

Joint costs and fixed, untraced or general costs by whatever name they are called, are alike in that they cannot be traced accurately to a particular article or product or unit of service. Here this similarity appears to cease and their differences emerge.

One difference is the tendency toward the inverse relationship of the prices or rates upon the principal and by-products, or chief and by-service, principle. This principle has been discussed above insofar as it relates to joint costs. There is no such phenomenon in the case of the fixed costs.

Fixed costs constitute a large proportion of railroad, steamship and pipeline transportation costs, although there are wide differences in the estimates as to the percentage of total costs in these transportation industries which fall into this category. In the motor transport industry fixed costs apparently constitute a small percentage of the total expenses of motor truck services.

Joint costs, on the other hand, particularly those attributable to round-trip or return load operation, are applicable in connection with a large portion of the costs of operating motor transportation service. They therefore account for material differences in motor freight rates in opposite directions upon the same or similar types of traffic. In other fields of transport the same principle is applicable although apparently not in the same degree as in motor transport. More light should be shed upon this problem in order to measure its applicability both absolutely and relatively in each of the major fields of transportation.

Another substantial difference between joint costs and fixed costs is the tendency of fixed costs to

equal out-of-pocket costs at the volume of traffic when the maximum efficiency in operation is reached. Beyond this point additional increments of traffic fail to yield revenue equal to the out-of-pocket costs of hauling the traffic. The rates upon these commodities are made to attract traffic. If they fail to cover out-of-pocket costs, they thereby throw the burden of making revenues equal to total costs upon other traffic.

Joint costs continue to be jointly incurred and require the adjustment of rates upon the jointly performed services whether the maximum traffic carrying capacity has or has not been reached. Professor D. Philip Locklin recognizes and states this principle when he distinguishes between cost and value in freight rate making. He states:

"If railway rates are truly subject to the law of joint cost, competition will not destroy discriminating rates . . . [Rates made not upon cost but upon the value of the service.] . . . All the competition imaginable would not cause equal prices on cotton fiber and cottonseed, nor on wool and mutton, nor on gas and coke." [Commodities produced under condition of joint cost]<sup>13</sup>

Professor Locklin has the same concept in mind in defining discrimination in rates. He states: "The terms [differential charging or discrimination in rates] refer to differences in rates not justifiable by differences in cost of service."<sup>14</sup>

Professor Wallace has commented: "Joint cost justifies some discrimination in rates charged to consumers with differing intensities of demand after capacity is best [most efficiently] utilized."<sup>15</sup>

It should not be overlooked that

<sup>11</sup> Locklin, D. Philip, *The Literature on Railway Rate Theory*, Quarterly Journal of Economics, Vol. XLVII, No. 2, February, 1933, p.g. 184, 190.

<sup>12</sup> Ibid, *Economics of Transportation*, Business Publications, Inc., Chicago, 1935, pp. 145, 146.

<sup>13</sup> Wallace, Donald H., *Joint and Overhead Costs and Railway Rate Policy*, Quarterly Journal of Economics, Harvard University Press, Cambridge, Vol. XLVIII, No. 4, August 1934, pp. 598.

<sup>14</sup> Bye, Raymond T., *Principles of Economics: A Restatement*, (Fourth Edition), Crofts, New York, 1941, pp. 383-391.

<sup>15</sup> Edwards, Ford K., *The Meaning and Significance of the Out-of-Pocket, Constant and Joint Costs in Motor Carriers Operation*, Interstate Commerce Commission, Bureau of Transport Economics and Statistics, Statement No. 4614, Washington, D. C., June 1946, p.g.

transportation services produced under conditions of joint cost are subject to composite demand, "the demand for a single commodity or service by different groups of users for different purposes."<sup>10</sup> The rates for the jointly produced transportation services must be made to produce revenues sufficient to cover the joint costs of production. At the same time, the individual rates for particular services subject to composite demand should be apportioned among the various users of the service according to the intensity of the demands for the services. This results in rates constructed by apportioning overhead costs among the services according to what the traffic will bear.

An example of joint cost transportation operation is to be found in the operation of freight service by railroad, steamship or motor truck from A to B. On each trip the freight train, steamship or motor vehicle carries several different commodities in varying proportions of the total carrying capacity of the transportation service units, creating thereby in a single operation a number of different and distinguishable principal and by-services. This transportation operation, in the opinion of this writer, does not result, as several distinguished economists including Professor Pigou have suggested, in the creation of a number of homogeneous ton-miles, but in a number of transportation services which are measured in ton-miles. Let us assume that the costs of performing these transportation services produced in this single transport operation are indistinguishable. The principle of joint cost is applicable and the rates for the transportation services may be fixed by resort to discriminating pricing, in which the rates for each service are determined by measuring the value of the transportation service to each commodity or ascertaining what the traffic will bear.

This concept of joint costs in multiple service single-unit opera-

tions is not accepted by many keen students of economic theory. Professor Raymond T. Bye, in commenting upon this concept states that this is not joint cost but a composite demand.<sup>17</sup> It seems to the author, however, that both phenomena are present. Professor D. Philip Locklin states that he agrees with the author's position that joint costs and common or overhead costs are not the same and that joint costs are found in the case of back-haul traffic. He states: "I was not sure at first that I fully agreed that joint costs arise in connection with multiple-service single-unit transportation operations . . . On further thought I am inclined to agree with you, although I want to give the matter some further thought."<sup>18</sup> Dr. Ford K. Edwards questions the concept that the movement of different lots of freight in one direction in a single train or truck constitutes an element of joint cost. He states his conviction that the failure of the costs to increase proportionately to traffic volume would be chargeable to the existence of fixed costs rather than joint costs.<sup>19</sup>

An examination of the literature of the economics of rate-making indicates a division of opinion on the part of many distinguished writers, some of whom are mentioned here and many others whose views are reflected in those to which reference is made, with respect to the application of the principle of joint cost in transportation. An analysis of their views suggests that part of the apparent conflict can be reconciled if joint costs are interpreted in the strict and correct sense of the costs incurred in a single measurable transportation service unit, such as the freight train, the steamship or the motor truck operating from one point to another. It would then be incorrect to consider joint costs as all costs which cannot be allocated to specific movements of traffic. This, the present writer submits, is consistent with the concept of joint

cost in agriculture and industry as used by many economists.

Another apparent area of conflict is liquidated if the ton-mile is considered as the yard-stick or unit by which the transportation services are measured, and not as the resultant product. This also is in accord with conventional economic theory.

Joint costs are not identical with constant or untraced costs but differ from the latter in several important respects: (1) joint costs tend toward inverse price relationships of the principal and by-service; (2) joint costs appear to constitute a smaller portion of the local transportation costs than is represented by constant or untraced costs, although these ratios appear to vary in different transport industries; and (3) joint costs persist when the transportation carriers are operating at total capacity just as they do when the operation is below maximum capacity.

Joint costs are found in two important aspects of transportation service: (1) in the return or opposite direction operation of transportation equipment, (2) in the multiple-service single-unit transportation operations, although this latter concept is not accepted by some competent students of economic costs.

The concept is useful principally in establishing freight rates for the transportation of principal and by-product services so that total costs of the going-and-return-services and of all the services produced in multiple-commodity single-service unit operation can be covered by rates fixed by the application of discriminating rate principles, if the joint cost nature of the problem is recognized and treated appropriately.

The author is indebted to Professor Raymond T. Bye of the University of Pennsylvania, Professor D. Philip Locklin of the University of Illinois, and Dr. Ford K. Edwards, of the Bureau of Transport Economics and Statistics of the ICC, who have critically examined the manuscript of this paper and generously given valuable suggestions.

Summary

<sup>10</sup> Bye, Raymond T., *Composite Demand and Joint Supply in Relation to Public Utility Rates*, Quarterly Journal of Economics, Harvard University Press, Cambridge, Vol. XLIV, November 1929, pp. 40-62.

<sup>17</sup> Memorandum of Criticisms and Comments, December 17, 1946.

<sup>18</sup> Letter and Critical Comments, November 27, 1946.

<sup>19</sup> Letter of Criticism, January 9, 1947.



# Getting down to *Cases*

By LEO T. PARKER

Legal Consultant

## WAREHOUSING

### Things You Can Do

YOU CAN avoid liability for loss of stored goods by fire if you (1) use ordinary care to safeguard the goods. (2) notify the owner in what warehouse his goods will be stored. If you fail to notify the owner that his goods will be stored in a warehouse different from the warehouse listed in your advertisements, you are definitely liable for any and all fire losses. For illustration, in *Ricks Transfer & Storage Co. v. Smith*, 204 S. W. (2d) 12, Tex., the testimony showed facts as follows: One Smith owned household goods and wanted to store them in a warehouse. He read the classified ad section of the Austin Telephone Directory, which showed a warehouse operated by Ricks Transfer and Storage Co. located only at 411 East 4th St. Smith was familiar with that warehouse and did not know that the company had storage places elsewhere. Smith secured packing barrels and equipment from the warehouse at 411 East 4th St. Instead of storing the goods at this latter location, Ricks stored them in a warehouse at 214-216 West Fourth St. On Sept. 26, 1945, this latter warehouse was destroyed by fire and Smith's goods were destroyed. Smith sued Ricks for \$2,726, the value of his goods. His suit was based on the fact that the warehouse company did not store his goods in the warehouse at 411 East 4th St., where he believed they would be stored. In fact Smith contended that the warehouse company was liable for the loss, irrespective of negligence, simply because the warehouse company's manager had not informed him that his goods would be stored in the warehouse at 214-216 West 4th St. The higher court held that, under the above described facts, the warehouse company "impliedly" contracted to store the goods at 411 East 4th St., and since it had not done so, it was liable to Smith for full value of his destroyed goods although the loss did not result from negligence of the warehouse company or its employees. This court said: "He (Smith) never knew, and was never informed by Ricks (warehouseman), that he had storage space elsewhere; or that he contemplated storing his property at any other place than in the warehouse where he advertised that he was doing business, and where they negotiated. Under such facts and circumstances, the jury was warranted in finding that there was at least an implied agreement made by Ricks to store Smith's property at the East 4th St. warehouse."

You CAN'T win a suit for storage or

space charges unless you file one suit for all charges due. For instance, in *Sutcliffe Storage & Warehouse Co., Inc., v. United States*, 162 Fed. (2d) 849, it was shown that the United States government occupied space in a warehouse building during four different periods. The first period was in 1943, second and third periods in 1944, and fourth period in 1945. The government refused to pay the warehouse charges and the warehouse company sued the government for lawful charges due. Instead of filing a single suit for the total charges, the warehouse company filed four suits, or one suit for each period. Both the lower and higher federal courts held that the government need not pay the warehouse company any money. The higher court said: "It is an ancient and well-settled legal principle that claims for amounts due on running accounts or as installment payments . . . must include all amounts due at the time action is brought."

## TRANSPORTATION

### Things You Can Do

YOU CAN increase freight rates in a locality if justified by unusual cost conditions. In *New York v. United States*, 67 S. Ct. 1207, Supreme Court held that differences in freight rates are not violation of the 1940 amendment to the Interstate Commerce Act unless the testimony shows that difference in the rates is not justified by the cost of the respective services, by their values, or by other transportation conditions.

You CAN receive a permit to operate a competing carrier if the service is beneficial to the public. In *E. A. Gallagher v. Pennsylvania Public Utility Commission*, 53 A. (2d) 842, Pa., the testimony showed that the territory to be served by a new applicant was being served but not efficiently in all respects by the present carrier. The Commission granted a permit to the new applicant and the higher court upheld the verdict, saying: "It must be conceded that there has been a growing demand for delivery of automobiles by truck from railroads in Philadelphia to consignees throughout the territory here involved . . ."

### Things You Can't Do

YOU CAN'T prevent a competing carrier from getting a permit, although previously he violated a valid law or Public Service Commission's regulation. See *Highway Express Lines, Inc. v. Pennsylvania Public Utility Commission*, 54 Atl. (2d) 109, Pa. Here one Carmine filed an application with the Pennsylvania Public Utility Commission for a certificate of public convenience to transport as a common carrier. A competitor protested the

application, alleging that the certificate should have been refused because Carmine had previously violated the Public Utility Law. The Commission granted the license because Carmine's services were needed in the territory he intended to serve. This court said: "No question of human safety was involved in the past dereliction, and it was for the commission to determine whether the prior violation rendered him unfit."

YOU CAN'T collect demurrage from a shipper if you fail to mail him legal notice on arrival of the shipment. For illustration, in *New York Central v. Karl Kiefer Machinery Co.*, 74 N. E. (2d) 416, Ohio, it was shown that a railroad failed to mail to a shipper notice of arrival of a shipment of steel bars, as required by a rule of the Public Utilities Commission. Also, the address of the consignee was not known. The higher court held that the railroad could not recover demurrage charges from the shipper.

## PACKAGING

### Things You Can Do

YOU CAN prevent state authorities from collecting taxes on imported goods in the original packages. This is so because a United States statute provides that no state, county or city shall tax goods, materials or merchandise imported and left in "original package." But the instant a package is broken, the contents are taxable. In *E. J. Stanton & Sons v. Los Angeles County*, 177 Pac. (2d) 804, Cal., it was shown that E. J. Stanton & Sons imported merchandise and sold it at wholesale and retail. The testimony showed that after a shipment was received it was placed in a storage warehouse. From time to time sales were made from the merchandise in the warehouse. Under these circumstances since the merchandise was not allowed to remain in its original packages, the higher court held that the county could tax it.

You CAN refuse to pay wages specified by the Fair Labor Standards Act on executives. But an employee who acts both as executive and worker is not a legal executive. One who does manual labor and also acts as an executive part time must be paid wages specified by this Act. For illustration, in *Arkansas v. King*, 157 Fed. (2d) 463, it was shown that an employee had charge of the manufacturing end of the business. Since the employee fixed windows, screen doors, cold storage latches and other things around the plant, the higher court held that the employee must be paid wages specified by the Act, saying: "It cannot be said in view of the testimony that the plaintiff (employee) was employed in a bona fide executive capacity."



### Things You Can't Do

YOU CAN'T refuse to prorate scarce materials. Hence where a packer makes several contracts to buy produce and supply containers to the sellers and he can make only partial performance, it is his legal duty to make apportionment of scarce containers. For illustration, in *Akins v. Riverbank Canning Co.*, 183 Pac. (2d) 86, Calif., it was shown that the Riverbank Canning Co. made a written contract with a tomato grower, under the terms of which the former purchased the grower's crop and furnished boxes for packing the tomatoes. This contract contained a clause that in case of a shortage of boxes the "Buyer will be excused from performance . . . and Buyer may . . . accept such portion of such tomatoes as Buyer, in its judgment, can economically handle." When the tomatoes were ready to pick a representative of the canning company told the grower he could get no boxes. The grower filed suit for damages. The canning company contended that it was not liable because of the above clause in the contract. However, the higher court held in favor of the grower and said: "If defendant (canner) failed to equitably distribute the boxes, or failed to properly guard them to enable it to do so, then defendant alone was at fault. It was within its power, at least to a degree, to carry out its contracts with plaintiffs."

YOU CAN'T obtain a trade-mark on a mark that "describes" your product. In *Basic Food Materials, Inc. v. Keyes Fibre Co.*, 162 Fed. (2d) 422, a manufacturer of paper baking pans applied for a trade-mark "BAKE-RITE" for use on his paper baking pans. The Court of Customs and Patent Appeals refused to register the mark, saying: "Trade-marks may not be registered which are 'merely . . . descriptive of the goods with which they are used, or of the character or quality of such goods.'"

## MARKETING

### Things You Can Do

YOU CAN take or give a reasonable quantity discount without violating the Robinson-Patman Law. In *Bruce's Juices, Inc. v. American Co.*, 67 S. Ct. 1015, the testimony showed facts as follows: A person named Bruce purchased about \$350,000 worth of cans annually. The seller's contract with all its customers allowed a discount of one percent on annual purchases of \$500,000, and nothing to those whose purchases were less than that. The discounts were so graduated as to give a maximum discount of five percent to a customer whose purchases were seven million dollars a year. The consequence is that relatively small packers pay five percent more for their cans than their largest competitors. Bruce claimed that this advantage to quantity buyers is a violation of the Robinson-Patman Act. The higher court refused to agree with this contention, and ordered Bruce to pay \$114,000 due the can company. This court said: "Bruce received the same discounts as others within his classification and it is not questioned that had it been a purchaser of larger quantities he would have been allowed the same discount as other purchasers of that class."

### Things You Can't Do

YOU CAN'T get possession of equipment you sell under "blank" title. For example, in *Economy Automobile Co. v. Interstate Securities Co.*, 198 S. W. (2d) 867, Mo., the testimony showed that an automobile dealer sold an automobile on credit and delivered the certificate of title forms to the purchaser in blank. Later another person got possession of the automobile and obtained certificates of title in proper form from the Commissioner of Motor Vehicles. The higher court held that the automobile dealer could not recover possession of the automobile from the new owner, although the dealer had received no payment for the automobile.

## DISTRIBUTION BRIEFS

**Arrow Motor Transit** has announced construction of a new cement block freight terminal building and loading docks in Fort Wayne, Ind. The firm has taken a 15-year lease on the site, and operates 50 load-carrying units between Chicago and Fort Wayne. The owners are August, Russell and Salvatore, Dinovo, three brothers. The firm's principal freight terminal is located in Chicago. (Wimmer)

**Borg-Warner International Corp.** has completed arrangements for the handling of the export activities of the Asbestos Manufacturing Co., according to a joint announcement by S. E. Shepard, vice president and general sales manager of the Asbestos Manufacturing Co. at Huntington, Ind., and John W. DeLind, Jr., president of the Borg-Warner International Corp.

**Crosley Motors, Inc.**, which manufactures lightweight, low-cost passenger cars and trucks in Cincinnati, O., and Marion, Ind., has appointed the following new dealers: Mack Motors, Rochester, N. Y.; Clay County Motors, Inc., Excelsior Spring, Mo.; Malott, Inc., Peru, Ind.; West Motor Sales, Winston Salem, N. C.; Victory Tire Exchange, New Brunswick, N. J.; L. W. Lewis & Sons, East Aurora, N. Y.; Phillips Flying Service, Conway, Mich.; Garrett Motor Sales, Modesto, Cal.; Norcott Motor Sales, Cedar Falls, Ia.

**The Dow Chemical Co.** has announced that Saran Lined Pipe Co., a newly organized firm, will act as exclusive distributors for the company's recently developed specialty pipe and fittings.

**Hagan Corp.**, Pittsburgh, Pa., in a move to centralize its combustion control and water-conditioning services to industry in Oregon, has appointed the United Engineering Co., Portland, as Oregon representative for all Hagan engineering services and products, and those of its associated companies—Hall Laboratories, Calgon, Inc., and the Buromin Co. The Northwest Filter Co., Seattle, will continue to represent Hagan Corp. and associated companies in the state of Washington.

J. Rodger Sheridan is president and founder of the newly organized United Engineering Co. in Portland.

**The Highway Trailer Co.** has announced the opening of a new sales and service branch in St. Paul, Minn. The company has maintained sales offices in a selling

organization in the Twin City area but it is only recently that steps have been taken for the installation of modern and efficient service facilities.

**The Pacific World Shipping Co.** has established offices in Portland, Ore., as foreign freight brokers and forwarding agents. The company will also engage in export marking and strapping. R. B. Gilliam, who has been traffic manager of Liddell & Clark Inc. for the last year, is manager of the new company. (Haskell)

**The Security Cartage Co.**, Fort Wayne, Ind., has taken a 15-year lease on a new freight warehouse, office building and garage and has moved into its new quarters from its old location. The two-story office building is 58 x 30 ft., the freight warehouse 58 x 120 ft. and the garage 40 x 70 ft. Security Cartage operates in Indiana, Illinois and Ohio.

**Stewart-Warner Corp.** held open house Dec. 13 to mark its 35th Anniversary. Originally known as Stewart-Warner Speedometer Corp., it was chartered in Virginia in 1912. Today it is the world's largest manufacturer of speedometers, lubricating equipment, aircraft and automotive hearing equipment, and casters. In addition to its main plant in Chicago, it has plants in Indianapolis, Bridgeport, Winston-Salem and Belleville, Ont., Can.

**The Trailmobile Co.**, Cincinnati, O., has announced that in keeping with the expansion plans of the company they have retained the services of The Harold F. Howard Co., management consultants of Detroit.

**Rudie Wilhelm Warehouse Co.**, Portland, Ore., has begun construction on a \$365,000 two-story warehouse and office building. The structure is to be of reinforced concrete 200 ft. x 200 ft. with 80,000 sq. ft. of floor space. It will have automatic sprinklers throughout. (Haskell)

**The White Motor Co.** has named Joseph P. Dermody, well known in automotive circles in the Michigan area, distributor of White Super Power trucks and busses in Jackson, Mich., territory. Mr. Dermody will operate under the name, Wolverine White Truck Sales. He will represent White in Jackson, Hillsdale and Branch counties.

## Obituary

**Frank J. DeLorme**, president, Sheboygan Warehouse and Forwarding Co., Sheboygan, Wis., director, Wisconsin Warehousemen's Assn.

**Francis H. Fenn**, president and general manager, American Bantam Car Co., Butler, Pa., director, Butler Chamber of Commerce, member, Pittsburgh Athletic Assn., Butler Country Club, Army Ordnance Assn., American Defense Society, Navy League, American Legion, Forty and Eighty, and Veterans of Foreign Wars.

**William Brodie Remington**, president, Wm. B. Remington, Inc., Springfield, Mass.

# People in Distribution

Dr. Richard Carroll was promoted to divisional vice president, Winthrop-Stearns Inc.

Elmer S. Dayer, former president of the Dye Fireproof Warehouse, Inc., of Buffalo, has established his own business, the Dayer Storage Warehouse, Inc.

H. Neil Mallon, president, Dresser Industries, Inc., was elected to fill the vacancy on the board of directors, The White Motor Co., created by the death of W. King White.

George E. Martin was appointed assistant sales manager, Lehigh Warehouse & Transportation Co., covering New Jersey territory. In his new position, Mr. Martin will be in charge of warehouse and trucking solicitation in the territory assigned to him, and will report directly to Frank E. Kearney, general sales manager of the organization.

Edward Michna was appointed chief engineer by the Sermat Conveyor Corp. of Chicago. He was formerly associated with Materials Movement Industries. In his new capacity he will head Sermat Conveyor's expanded engineering department.

R. J. (Ray) Nymberg of Detroit, Mich., has accepted the position of general sales manager of the Hercules Steel Products Corp., Galion, O.

Thomas R. O'Rourke was appointed executive representative for Braniff International Airways in Ecuador.

John M. Samuels has joined the staff of the J. F. Sullivan Storage Co., Inc., of New London, Conn., an agent-member of Allied Van Lines Inc. Mr. Samuels will fill the position of warehouse superintendent.

The Gummed Products Co. has announced the following additions to office personnel: Robert E. Hoefflin has become manager of the company's Plain Tape Dept. and will be assisted in his duties by George E. Miller, who has been with Gummed Products three years.

The Flat Gummed Paper Dept. will be in charge of Willis R. Haase, who leaves his present position as Columbus district sales manager for the company, to take up his new duties. He will be assisted in the management of his department by Robert N. Graham, formerly with the Champion Paper and Fibre Co.'s Hamilton, O., offices.

Another innovation at the company's home office is an expanded Order Dept. under the direction of Philip W. Faulkner.

Robert G. Etter has been appointed an assistant to the staff of Joseph W. Kenny, manager of the company's Trojan Box Tape Dept.

Assisting T. H. Mittendorf, vice president in charge of sales for the company, with

the advertising and sales promotion activities of the company, will be William T. Blake, who was formerly a member of the sales promotion staff of The National Cash Register Co., Dayton, O.

Robert L. Schwyn has been brought to the company's home office for training in all phases of the company's sales operation. Mr. Schwyn has been assigned to the expanded Printed Tape Dept.

The company's home office and field activities will be under the direct supervision of T. H. Mittendorf and F. F. Williams, sales manager.

Hagen Corp. has transferred Gerald G. Lipke from Denver to the Hagen-Hall-Calgon staff in Pittsburgh and also has assigned Robert L. Hankison, former member of the Pittsburgh engineering department, to sales. Herbert J. Kettler, formerly in charge of service engineering in the Chicago area for the corporation in Pittsburgh, has been transferred to St. Louis to assist J. C. McFarland, manager of the firm's St. Louis office.

\*Hotpoint, Inc., has appointed Howard J. Scaife as manager of market development, and William F. Odgen as manager of product planning.

Indian Motorcycle Co. has appointed Gardiner S. Platt as assistant to Ralph B. Rogers, president. He will be in charge of factory-dealer relations.

Milton Roberts has been appointed director of purchasing. He was formerly with the air conditioning division of R. B. Rogers Cos., Inc., which recently was merged into Indian, and is also on the board of directors of the company.

Pan American Airways has appointed Selby Calkins as advertising promotion manager.

Captain Harold E. Gray has been appointed division manager of Pan American Airways' Pacific-Alaska Div. Gray transfers to the Pacific coast from New York where he was system planning manager of the airline.

Railway Express Agency has appointed Frank T. Halligan superintendent of organization, succeeding the late Charles Benton.

Samuel D. Stainton has been appointed general superintendent of organization at New York City.

Reaume-Kerkling Co., with sales headquarters at No. Hollywood, Cal. was formed by Charles Reaume and C. A. Kerkling. T. H. Hansen, brake specialist, is assisting. Initial product to be distributed by the firm is the new Rocket Hydraulic Brake Booster.

The Yale & Towne Manufacturing Co., has announced that Calvert Carey of Greenwich, Conn., has been elected presi-

dent of the company, and Fred Dunning, executive vice president.

Mr. Carey, the fifth president of the 79 year old company, succeeds his brother, the late W. Gibson Carey, Jr.

The executive vice presidency is a new office and Mr. Dunning will continue to serve as secretary and treasurer.

Both Mr. Carey and Mr. Dunning have been directors for many years.

The American Trucking Assns., Inc., have re-appointed Charles P. Clark of Columbia Terminals Co., St. Louis, treasurer, as chairman of the association's Finance Committee. The following committee members were appointed: H. D. Horton of Associated Transport, Inc., Charlotte, N. C.; John M. Akers, of Akers Motor Lines, Inc., Gastonia, N. C.; George V. Eastes of Lee & Eastes, Seattle, and Philip Smith of Smith Cartage Co., Chicago.

The Baltimore Chapter, Assn. of ICC Practitioners, at their annual meeting elected the following officers: Chairman W. F. King, traffic manager, Baltimore Porcelain Steel Corp.; vice chairman, L. J. Cantor, division traffic manager, Koppers Corp.; Bartlett-Hayward Div.; secretary and treasurer, E. S. Howe, traffic representative, Mexican Petroleum Corp.; executive committee: Ollie W. Hubbard, traffic manager, W. M. Schluderberger T. J. Kurlie Co., and Edward J. Darenthal, traffic manager, Montgomery Ward and Co.

The National Industrial Traffic League has elected A. H. Schweitert, traffic director, The Chicago Assn. of Commerce and Industry, as president. I. F. Lyons, traffic director, California Packing Corp., San Francisco, Cal., was elected vice president of the League and Roy W. Campbell, manager, Traffic Dept., Butler Paper Corp., was elected treasurer.

New Jersey Merchandise Warehousemen's Assn., Inc. has elected the following new officers: President Gavin J. Moffatt, Essex Warehouse Co.; vice president, Jack Steinhauer, S. & F. Co., Inc.; treasurer, N. Schwartz, Commercial Warehouses, Inc.; secretary, Harry R. Brinkman, Bayway Terminal Corp.; directors, A. N. Drake, Lehigh Warehouse & Transportation Co., Chas. Fagg, Newark Central Warehouse Co., Griswald Holman, Geo. B. Holman & Co.

The Traffic Club of Newark has installed the following new officers: Edward W. Cisllo, manager, National Carloading Corp. of Newark, as president; Ralph Travisano, traffic manager, Worthington Pump & Machinery Corp., Harrison, N. J., as first vice president; William A. Kortenhous, president Bilkays Express Co., Newark, as second vice president; Edward W. Kane, traffic manager, Murphy Finishes, Newark, re-elected as treasurer; and Edward J. McCabe, Soo Line, New York City, John A. McCoy, Motor Haulage Co., Jersey City and Clarence A. Nate, Federal Telephone and Radio Corp., Clifton, N. J., were elected to the board of governors. Sol. V. Rettino, director of traffic, Bristol-Myers Cos., Hillside, N. J., was elected chairman of the board of governors. Arthur N. Granzen, president, Bay Terminals, Inc., Newark, was re-elected secretary, and George E. Martin, assistant sales manager, Lehigh Warehouse & Transportation Co., Newark, was re-appointed editor of "The Tariff" the Club's official publication.

# Public Warehouse Section

Warehousing is an integral part of distribution in several ways. Public warehouses are not merely depositories for the safeguarding of personal effects or industrial commodities; many are equipped to perform a wide range of services in addition to storage. Among these services are:

Bottling, boxing, financing, fumigating, grading, handling, hauling, labeling, motor transportation, mothproofing, moving, operation of public truck scales, quick-

freeze facilities, rental of space for manufacturing, offices and showrooms, rigging, sales representation, sample distribution, sorting, stevedoring and various other functions for efficient and economical distribution.

This special advertising section of public warehousing has been consolidated for ready reference and maximum utility. It includes merchandise, refrigerated, household goods and field warehouses. For shippers' convenience, states, cities and firms have been arranged alphabetically.

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TWO WAREHOUSES

Merchandise and Household Goods

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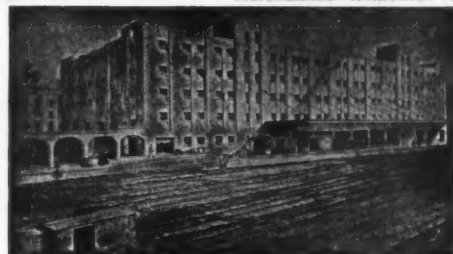
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General Merchandise Storage and Distribution  
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SERVING  
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Receiving—STORAGE—Handling.  
Motor Freight Service to all points.  
6-car Private Siding. Reciprocal Switching.  
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Household Goods—Furniture Van Service  
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This ultra modern warehouse property with six car siding on the Rock Island is completely mechanized. We offer general merchandise warehousing at its best, including pool car distribution, office and display facilities and loans on stored commodities.

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Storage Facilities

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Bill Elliott, Manager

## LOS ANGELES, CAL.

The



STORAGE  
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Merchandise Exclusively

LOS ANGELES 21  
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Fred Merish will discuss industrial decentralization in the February issue of DISTRIBUTION AGE.

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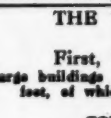


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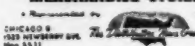
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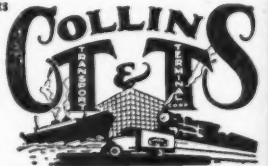
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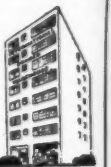
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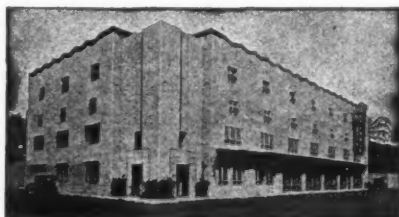
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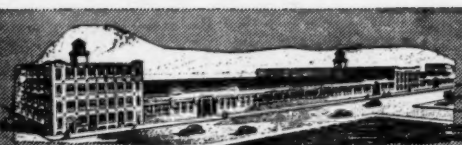
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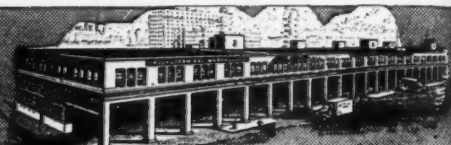
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Established 1922

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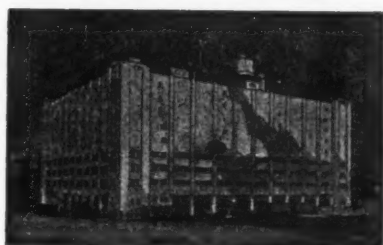
*Dr. Frederick will discuss the controversial issue  
of aids to air transportation in February.*

# AMERICAN WAREHOUSEMEN'S ASSOCIATION

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Division of

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**Wolverine Storage Company, Inc.**  
11850 E. Jefferson Ave., Detroit 14  
STORAGE AND MOVING, PACKING  
AND SHIPPING

Agents for Allied Van Lines, Inc.



GRAND RAPIDS, MICH.

THE LARGEST COMPLETE WAREHOUSING AND  
DISTRIBUTING SERVICE IN GRAND RAPIDS  
**COLUMBIAN STORAGE & TRANSFER CO.**

Approximately 90% of All Commercial Storage and Pool Cars  
in Grand Rapids Handled Thru Columbian



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A.W.A.

Represented by  
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1525 N. WABASH AVE.  
Room 1531

GRAND RAPIDS, MICH.  
NEW YORK 18  
10 WEST 42ND ST.  
Room 2, 2nd Fl.

LANSING, MICH.

Established 1919



**FIREPROOF STORAGE CO.**

430-440 No. Larch St., Lansing 2  
Merchandise and Household  
Goods Storage  
—Modern Fireproof Building—  
Pool Car Distribution—Private Sidings  
P. M. R. R.  
Trucks for Local Deliveries  
Member of A.W.A.—May W.A.



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Agents for Allied Van Lines, Inc.

**LANSING STORAGE COMPANY**

The only modern fireproof warehouse in  
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**MOTHPROOF FUR AND RUG VAULTS**  
Local and Long Distance Moving  
"WE KNOW HOW"  
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### BRANCH HOUSE SERVICE ... AT WAREHOUSE COST

- It is possible here to secure the same high-grade service you would expect in your own branch warehouse, but at less expense and without worry or trouble.
- Saginaw is a distribution point for Northeastern Michigan. Every merchandise warehouse facility is available at Central Warehouse Co.
- Merchandise storage, cartage, pool car distribution, daily direct service to all points within 75 miles by responsible carriers.

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ASSOCIATED WAREHOUSES, INC.  
AMERICAN WAREHOUSEMEN'S ASSOCIATION

### MINNEAPOLIS TERMINAL WAREHOUSE CO.

OPERATED JOINTLY WITH  
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ALL MERCHANDISE WAREHOUSING SERVICES  
CONVENIENT FOR ALL TWIN CITY LOCATIONS

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Merchandise and Household Goods Storage  
Local Pool Car Distribution  
Packing—Crating—Bonded Storage  
Local and Long Distance Moving  
ROCHESTER TRANSFER & STORAGE CO.  
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Member N.F.W.A. and Allied Van Lines, Miss. Northwest W.A.

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### A COMPLETE WAREHOUSING SERVICE

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Pool Car Distribution—Industrial Facilities

Situated in the Midway, the center of the Twin City Metropolitan area, the logical warehouse from which the Twin Cities and the Great Northwest can be served from one stock, with utmost speed and economy. No telephone toll charge to either city.

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35 Car direct siding all local Railroad  
Over Night Service to Gulfports on Exports  
Merchandise Storage & Distribution  
ADDITIONAL 250,000 Sq. Ft. Warehouse Space at COM-  
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Distribution and storage of merchandise.  
Fireproof warehouses—Motor van service.  
On railroad siding—Lowest insurance rates.  
PACKING—STORAGE—SHIPPING  
Agent for Graym Lines, Inc.

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For Shippers' Convenience, States, Cities

### it's the A-B-C FIREPROOF WAREHOUSE CO.



1015 E. Eighth St. (6)  
Distribution Cars are so handled as to  
carefully safeguard your own interests  
and those of your customers.  
Three Fireproof Constructed Warehouses  
Member N.F.W.A. Agents Allied Van Lines, Inc.



## KANSAS CITY, MO.

Merchandise Storage  
Low Insurance Rates  
Pool Car Distribution  
Delivery Service  
• Freight Forwarding  
Member N.F.W.A.  
A.C.W., Chamber of  
Commerce, Traffic Club

### ADAMS TRANSFER & STORAGE CO.

228-234 W. 4th St., Kansas City, Mo.  
Surrounded by the Wholesale District  
Complete Freight Distribution and Warehousing

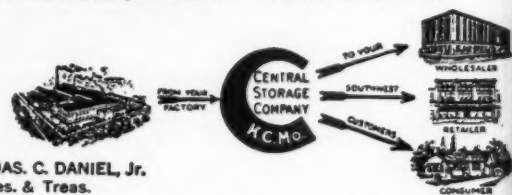
## KANSAS CITY, MO.

### VICTOR 3268

### CENTRAL STORAGE CO.

1422 St. Louis Ave. (West 10th St.)  
KANSAS CITY 7, MO.

Merchandise Warehousing and Distributing  
Branch House for Factories - Pool Car Distribution



CHAS. C. DANIEL, Jr.  
Pres. & Treas.

Over 68 YEARS "The Symbol of Service"

## KANSAS CITY, MO.



3

### CHOICELY LOCATED WAREHOUSES IN KANSAS CITY

To insure Efficient and Economical  
Coverage of this Great Marketing Area

#### CHECK THESE FEATURES

Modern Facilities  
Responsible Management  
Spacious Switch Trucks  
Ample Truck Loading Doors  
Streamlined Handling Equipment  
Our Own Fleet of Motor Trucks  
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Storage and Transit  
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#### ALL BRANCH HOUSE FUNCTIONS INCLUDING:

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It costs you nothing to investigate Crooks  
Terminal facilities. Phone, wire or  
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Associated with Overland Terminal Warehouses Co., 1807 E. Olympic Blvd., Los Angeles 21.  
Members of the American Warehousemen's Association and Interstate Terminals, Inc.

Cities and Firms are Arranged Alphabetically

KANSAS CITY, MO.

TRY—

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1325-1327 St. Louis Avenue • Phone Victor 0264

GENERAL MERCHANDISE WAREHOUSING  
POOL CAR DISTRIBUTION

We operate our own fleet of motor trucks. Loading docks: R. R. siding Missouri Pacific. Inquiries answered promptly.

KANSAS CITY, MO.

## STORAGE AND DISTRIBUTION



400,000 sq. ft.  
Trackage on  
four railroads  
Truck docks—  
Low Insurance

## KANSAS CITY TERMINAL WAREHOUSE CO.

ST. LOUIS AVE. & MULBERRY ST.

KANSAS CITY 7, MO.

KANSAS CITY, MO.

"Right in the Midst of Business"

## COMPLETE WAREHOUSE FACILITIES

for the proper Storage and Distribution of your  
Merchandise in the Kansas City trade area.

## POOL CAR DISTRIBUTION

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Charles W. Peters, President

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Nationwide Movers of Household Goods

GENERAL OFFICES

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for  
conscientious  
handling of

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Storage & Moving  
8201 DELMAR, ST. LOUIS 8

ST. LOUIS, MO.

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MAIN & RUTGER STS., ST. LOUIS 4

A.D.T. Burglar & Sprinkler Alarms.  
200,000 Sq. Feet of Service

BONDED

Low Insurance

Merchandise Storage and  
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Track Connections with All  
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Murray Hill 9-7648

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The 2nd National Materials Handling Exposition  
will be covered in detail in February's

DISTRIBUTION AGE

JANUARY, 1948

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USE  
**LONG SERVICE**  
from shipper  
to market

ST. LOUIS AND THE 49th STATE

**COMPETENT:**  
Every employee, at every level, is experienced in his particular phase of our over-all operation... ready to give you a warehousing and distribution service that is Competent, Complete and Compact.

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ST. LOUIS... The City Served by the United States

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## Facilities plus Service

To adequately take care  
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Distribution Requirements.



"The Home of  
National Distributors"

## Located Right in the Midst of Business

Fast and efficient Distribution in the Industrial and Wholesale Districts.

## Over 20 Years of Experience

assuring you of the proper and careful handling of your  
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Central Location, Protection, Special Space, Cleanliness,  
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"SERVING INDUSTRY OVER TWENTY YEARS"

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AMERICAN WAREHOUSEMEN'S ASSOCIATION

111

ST. LOUIS, MO.

Established 1912

# Tyler Warehouse & Cold Storage Co.

Merchandise and Cold Storage  
Unexcelled service at lower rates  
Pool Car Distribution and Forwarding  
200 Dickson St. St. Louis 6, Mo.

Member of A.W.A.—Mo.W.A.—St.L.M.W.A.  
ST. LOUIS CHAMBER OF COMMERCE



AMERICAN WAREHOUSEMEN'S ASSOCIATION

SPRINGFIELD, MO.

Phone 330

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Merchandise and Household Goods  
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100,000 square feet sprinklered  
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Member A.W.A.—N.F.W.A.—Mo.W.  
American Chain of Warehouses  
Agent Allied Van Lines, Inc.



BILLINGS, MONT.

Established 1904

## BRUCE COOK TRANSFER & STORAGE COMPANY

Complete Facilities for Storage of Merchandise and Household Goods

Stop in Transit and Pool Car Distribution  
Warehouse Dock and Terminal for Five Truck Lines  
Private Siding Free Switching  
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Complete facilities for storage of merchandise and household goods.  
Stop in transit and pool car distribution. Warehouse dock and truck terminal.  
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1876

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Storage & Transfer Co., Inc.

Pool Car Distribution  
FIREPROOF BOND  
STORED OR SHIPPED



LINCOLN, NEBR.

1889 59 Years of Continuous Service 1948

Merchandise and Household Storage—Pool Car Distribution  
We operate thirty trucks and have connections to all points in the State.  
Our buildings are clean, both fire and non-fireproof, located on the lines of the C. B. & Q.—Mo. Pacific and Union Pacific with all other lines entering city, absorbing switching.  
We are bonded by the State—Our Rates are reasonable. We solicit your business and guarantee satisfaction. Investigation invited.

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Transfer & Storage Co. Grand Island Storage Co.  
Lincoln 8, Nebr., 301 N. 8th St. Grand Island, Nebr., 311 W. 4th St.

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STORAGE & MOVING COMPANY

1024 Dodge Street Omaha 2, Nebraska  
Omaha's most modern, centrally located warehouse. Fireproof construction. Fully sprinklered—Low insurance. Sidings on I.C. R.R. and U.P. R.R. U. S. Customs Bond. General Merchandise—Cooler Storage—Household Goods Storage. Also operate modern facilities in Council Bluffs, Iowa. Our own fleet of trucks for quick deliveries.

Member of N.F.W.A. and A.W.A.

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Storage Warehouse, Inc.

Merchandise and Household Goods

Four modern, sprinklered warehouses, located on trackage. We handle pool cars, merchandise and household goods. Trucking Service. Let us act as your Omaha Branch.

Main Office, 702-12 So. 10th St., OMAHA, 8 NEBR.  
Members A.W.A.—N.F.W.A. Agents for Allied Van Lines, Inc.



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Make Our Warehouse Your Branch Office for Complete Service in New Hampshire

NASHUA, N. H.

McLANE & TAYLOR

CONCORD, N. H.

Bonded Storage Warehouses

Offices 624 Willow St.

General Merchandise Storage & Distribution, Household Goods, Storage, Cold Storage, Unexcelled Facilities.  
Pool Car Distribution  
Direct R. R. Siding, Boston & Maine R. R.

BAYONNE, N. J.

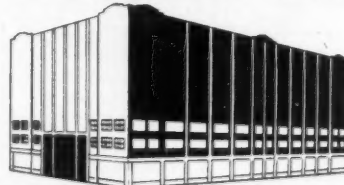
ESTABLISHED 1894

## EMPIRE MOVING & STORAGE CO.

General Offices: 15 WEST 18th ST., BAYONNE, N. J.  
MOVING — PACKING — CRATING — SHIPPING  
DOMESTIC & FOREIGN SHIPMENTS — HOUSEHOLD GOODS STORAGE  
FLEET OF MODERN VANS SERVING 25 STATES

for the best  
in cold storage

in the greater NEW YORK area



store  
with

## SEABOARD TERMINAL & REFRIGERATION CO.

215 Coles Street

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Vice-President and General Manager: J. G. Hollmeyer

Telephone—Rector 2-2165

Journal Square 2-0280



## THE CITY ICE & FUEL CO.

Cold Storage Division

33 SOUTH CLARK STREET  
CHICAGO 3, ILLINOIS



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### In the Heart of the Metropolitan Area Directly Opposite Cortlandt Street, New York **HARBORSIDE WAREHOUSE COMPANY, Inc.**

Established 1933

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**FACILITIES**—8 units . . . fireproof, brick and concrete. Penna. R. R. private siding—42-car capacity; connections with all roads entering city. Merchandise storage, Manufacturing and office space, 1,650,000 sq. ft.; sprinkler; automatic fire alarm. Insurance rate: .099. Platform capacity, 40 trucks. Cold storage: Coolers, 1,608,000 cu. ft.; freezer 1,188,000 cu. ft.—total 2,796,000 cu. ft., convertible; automatic fire alarm. Insurance rate: .06. Brine refrigerator system; temperature range, 0° to 50° F.; cooler-room ventilation; humidity control; 10-truck platform. Dock facilities: Waterfront dock, 600 ft.; minimum draft 21 ft.; pier berth, 60.0 ft.; bulkhead draft, 35-38 ft.  
**SERVICE FEATURES**—Free lighterage; pool car distribution. Rental of office space. All perishable products accepted for cold storage. Free switching on certain perishable products. Bonded space available. American Export Line steamers dock at pier adjacent to warehouse. Oversea rail shipments to store c/o Harborside Warehouse Co., Jersey City. Pennsylvania Railroad, Henderson Street Station delivery.  
**ASSNS.**—A. W. A. (Cold Storage Div.); W. A. Port of New York; Mar. Assn.; N. Y. Mer. Exch.; Com. & Ind. Assn., N. Y.; Jersey City C. of C.

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18 floors of modern fireproof, sprinklered warehouse space. 250,000 square feet, low insurance rates, centrally located in downtown Newark.

**GENERAL MERCHANDISE**  
stored, distributed

**HOUSEHOLD GOODS**

packed, moved, stored or shipped ANYWHERE in U. S. or abroad.

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## NEWARK, N. J.

MEMBER: N.J.F.W.A. and N.F.W.A.

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—dependable since 1860—

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NEW YORK CITY

### **HARRIS WAREHOUSES, INC.**

RECTOR ST., PERTH AMBOY  
Gen. Offices—246 South St., N. Y. C.

Est. 1900

Merchandise Storage and Distribution  
Dock and Pier Facilities within the  
Free Lighterage Limits

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### **SPRINGER TRANSFER COMPANY** **ALBUQUERQUE**

#### **Fireproof Storage Warehouse**

Complete and efficient service in distribution, delivery or storage of general merchandise or furniture.

Member of N.F.W.A.—A.W.A.

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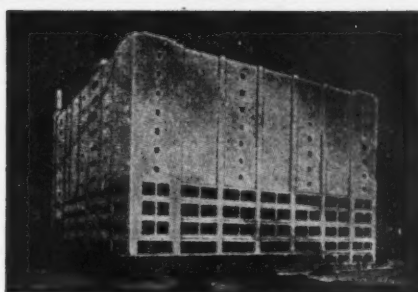
Founded 1918

### **R. E. D., Inc.**

SUCCESSORS TO

Hudson River Storage and Warehouse Corp.  
43 Rathbone St. Albany 4, N. Y.  
STORAGE OF ALL KINDS — BONDED WAREHOUSE  
POOL CAR DISTRIBUTION

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Telephone 3-4101

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**COLD STORAGE—DRY STORAGE  
DISTRIBUTION**

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HOUSEHOLD GOODS—STORAGE AND SHIPPING  
FLEET OF MOTOR TRUCKS FOR DISTRIBUTION OF ALL  
KINDS. POOL CAR DISTRIBUTION OF MERCHANDISE  
YOUR ALBANY SHIPMENTS CAREFULLY HANDLED

Deliveries promptly effected  
Member of AVL—NFWA—NYSWA



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Established in 1922. The Eagle Warehouse & Storage Co. of Brooklyn, Inc., has become the synonym for the careful handling and storage of household goods and merchandise. ADT Watchmen's service; a warehouse of concrete and brick; twelve trucks to insure prompt service. Our long experience guarantees perfect service. Consign shipments to Jay Street Terminal, Brooklyn, N. Y.

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M. KENNETH FROST, Vice President EDWARD T. JENKINS, Treasurer  
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Member NATIONAL FURNITURE WAREHOUSEMEN'S ASSN.

Agents ALLIED VAN LINES, INC.

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STORAGE OF GENERAL MERCHANDISE  
18 GIANT FLOORS MODERN UNLOADING FACILITIES  
200,000 FT. OF SPACE  
PRIVATE VAULTS FOR LIQUORS



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Sole Agent in Buffalo for Allied Van Lines, Inc.

Two warehouses with greatest capacity in household storage in Western New York. In Buffalo, "American" is the leader.

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BUFFALO, N. Y.

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RAIL — LAKE — CANAL TERMINALS  
ERIE — NYC — BUFFALO CREEK R. R.  
HEATED SPACE OFFICES — MANUFACTURING

EASTERN MEMBER WESTERN

REPRESENTATIVE

Interlake Terminals, Inc.

271 Madison Ave.

New York 16, New York

**BUFFALO MERCHANDISE WAREHOUSES, INC.**

GENERAL OFFICES

1200 NIAGARA STREET

REPRESENTATIVE

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Warehouses, Inc.

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Chicago 4, Illinois

BUFFALO 13, NEW YORK

BUFFALO 4, N. Y.

Gateway to National Distribution

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For economical warehousing and shipping. Modern building and equipment. Storage-in-transit privileges; low insurance rates. Direct track-connections with Penna. R. R. and N. Y. Central, and switching arrangements with all lines into Buffalo. Capacity 20 cars daily.



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DEPENDABLE SERVICE SINCE 1900

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50 Mississippi Street, Buffalo 3, N. Y.

MERCHANDISE STORAGE AND DISTRIBUTION

MODERN BUILDINGS — PRIVATE SIDING

Represented by Distribution Service, Inc.

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Let us care for your needs in Buffalo

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General Merchandise Storage and Distribution

Modern—Fireproof—Low Insurance Rate

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GOVERNMENT BONDED WAREHOUSE

BUFFALO, N. Y.

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... HAVE SOMETHING IN STORE for you ...  
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STORAGE AND LOCAL OR LONG DISTANCE REMOVAL OF HOUSEHOLD FURNITURE



SPECIALISTS IN STORING & HANDLING ELECTRICAL APPLIANCES FOR DISTRIBUTION

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Fireproof Buildings N.Y.C. Siding  
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OLD ADVISORY BLDG.  
Since 1911

NEW YORK 18  
10 WEST 42ND ST.  
Since 1917



DUNKIRK, N. Y.

Established 1884

## CLEVELAND STORAGE CO.

MERCHANDISE STORAGE—CARLOADS IN AND OUT—STORAGE IN TRANSIT

All communications Cleveland, Ohio, Office, 619 Guardian Bldg. (14)

FLUSHING, L. I., N. Y.

Established 1903

## Flushing Storage Warehouse Company

135-29 96th Avenue, Flushing, N. Y.

FIREPROOF WAREHOUSES

HOUSEHOLD GOODS

Storage — Moving — Packing — Shipping

Serving all of Long Island

Member of: Nat'l. Furn. Whsemen's Assn., N. Y. State

Whsemen's Assn., N. Y. Furn. Whsemen's Assn.

Agent for: Allied Van Lines, Inc.

HEMPSTEAD, L. I.

HARRY W. WASTIE, Pres.

## HEMPSTEAD STORAGE CORP.

GENERAL OFFICES, 237 MAIN STREET

FIREPROOF STORAGE WAREHOUSES

For household goods, merchandise, Pool car distribution.

Storage for furs, clothing, etc.

Local and Long Distance moving. Serving all of

Long Island

Member of N.F.W.A.—N.Y.F.W.A.—N.Y.S.W.A.—

L.I.W.S.A. Agents for Allied Van Lines, Inc.

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Members: Independent Movers & Warehousemen's Assn.  
N. Y. State Warehousemen's Association

## RED BALL VAN LINES

179-03 Jamaica Avenue, Jamaica 3, L. I., N. Y.

- Household goods carriers of Interstate Motor Van shipments.
- Consolidated Pool Car shipments outbound.
- Distributors of Pool Cars inbound.
- Crating for export.
- Warehouse and Terminal facilities.



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Water Siding: Flushing Bay, L. I., 123-45 Lax Avenue

Terminal & Rail Siding: Jamaica, L. I., N.Y. 182-12 93rd Ave.

JAMESTOWN, N. Y.

H. E. FIELD, President FRANK H. FIELD, Mgr.

## WILLIAM F. ENDRESS, INC.

66 FOOTE AVE., JAMESTOWN, N. Y.

MERCHANDISE STORAGE • COLD STORAGE

Specializing: Cream, Frozen Fruits, Vegetables, Meats, Etc.

4500 Sq. Ft. Merchandise Storage Space, 136,000 Cu. Ft.

of freezer space, 50,000 cu. ft. of cooler space. Siding and

Truck Docks. Consign shipments via Erie R.R. 25-ton

Truck Weigh Scale. Members Nat. Assn. Refrigeration

Warehouses, N. Y. State Assn. Refrig. Whsemen.

LITTLE FALLS, N. Y.

Private Sidings — Main Line N. Y. C. R. R.

## ROCK CITY STORAGE CO.

180,000 SQUARE FEET DRY STORAGE SPACE

FULLY SPRINKLERED — STORAGE IN TRANSIT

N. Y. Representative Geo. W. Perkins — Phone Bowling Green 9-3431

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**O'Brien's Fireproof Storage Warehouse, Inc.**

Packers and Shippers of Fine Furniture and Works of Art

Also Serving

New Rochelle, Pelham, Larchmont, Mamaroneck, White Plains, Scarsdale, Hartsdale. Send B/L to us at New Rochelle.



in NEW YORK, N. Y. --- Call John Terreforte for Merchandise Storage and Distribution Information on 86 Member Warehouses

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**BOWLING GREEN STORAGE AND VAN COMPANY**

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Cable Address: BOWLINGVAN

House to house moving round the World of Household Effects and Art Objects in Steel and Wood Lift Vans.

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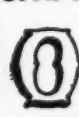
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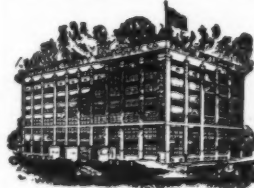
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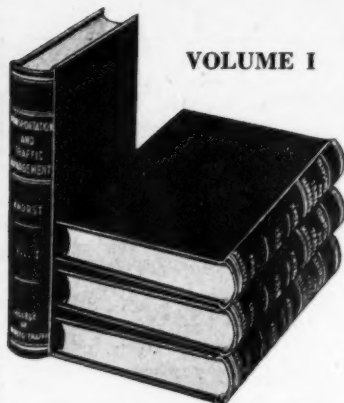
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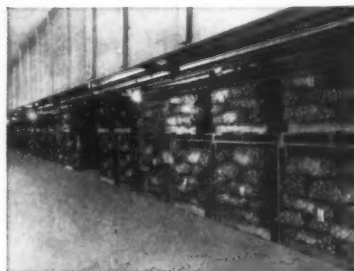


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